

# American Aviation

*The Independent Voice of American Aeronautics* NOT TO BE TAKEN JUNE 15, 1943

## Transport or Policy?

*Fortnightly Review*

LAST issue in this space we endeavored to focus attention upon the threat of partial or complete government ownership of our international air transport after the war. The problem is much more immediate than is generally imagined. It is a basic question that must be settled first before we come to the question of whether there shall be one, or many, airlines operating under the American flag to foreign lands.

But there is an even broader and more fundamental question at stake. It affects not only the United States but every other nation in the world. It concerns airline operators and manufacturers alike. Around it revolves every factor of expansion of commercial air transportation.

Stated very simply and briefly it is the question of whether air transportation is to be considered as transportation, or whether it is to be treated as an instrumentality of government policy and national prestige. Transportation or government policy—that is the fundamental question of the airplane to be decided by every government of the world.

The issues were very lucidly stated by Edward P. Warner, vice chairman of the Civil Aeronautics Board, in his very excellent Wilbur Wright Memorial Lecture delivered in London late last month. His words are worth reading carefully for they sum up excellently the vastly important fundamental issues by which the airplane becomes either a utility for the benefit of the peoples of the world, or slides under the restrictions and confinements of government policy.

(Turn to page 8)



### Postwar Planner

Ray Ellinwood, 34-year-old president of Adel Precision Products Corp., is planning a program to shift his company to postwar production of aircraft accessories and consumer goods.

(Page 28)

## Late Bulletins

### Washington Lines Granted

In one of its most important decisions, CAB on June 8 awarded routes into Washington, D. C., to United Air Lines, TWA and Eastern. United was granted Toledo-Washington, TWA Dayton-Washington via Columbus and Wheeling, and Eastern Louisville-Washington via Frankfort-Lexington and Cincinnati. Service will not be inaugurated until national defense permits. Washington since 1939 has produced more air passenger traffic than any other U. S. city except New York and Chicago, and there is no reason to believe that it will not continue to maintain that rank, CAB said.

*Trend of The News*

**Postwar Plans:** Aircraft manufacturers are now taking a decidedly realistic view of the plant problem which will face them when the war ends. Generally accepted now is an estimate that not more than 10% of the existing plant facilities will be needed to manufacture the planes for which there will be a market in the postwar era. Whereas a few months ago plane makers were reluctant to think of manufacturing non-aviation products, they are now turning to thorough research to discover consumer goods for which their surplus plant facilities can be used after the war. Many developments can be expected along this line during the coming months.

**Contract Termination:** Indications are that suitable arrangements will be made for termination of aircraft contracts when the war ends. Work is progressing on the problems much to the satisfaction of the aircraft manufacturers. Lack of a definite policy could create chaos. However, it is believed that a workable formula will result and that it will be made a part of all existing and new contracts. A time limitation on termination may also be included, enabling manufacturers to avoid having contracts remain unsettled for years after the war.

**Legislative Recess:** Any new legislation affecting aviation which is not on the books within the next couple of weeks will remain dead until next fall, unless the unexpected happens on Capitol Hill. Along with its new show of independence, Congress is determined to have a vacation this summer—from July 4 to Labor Day. Biggest aviation item pending is the Lea-Bailey Bill (civil aeronautics act of 1943) which may be disposed of by the House before the recess, but probably will have to await Senate headings and debate next fall.

**Toward Competition:** A definite trend toward permitting more competition in the domestic airline system has become apparent in recent decisions of the Civil Aeronautics Board. Braniff will to some extent compete with Continental in Denver as will TWA with United in Los Angeles. CAB reiterates that "destructive" competition will be

(Turn to page 6)



## Salute to Memphis... *and its post-war future*

High on the Chickasaw Bluffs overlooking the mighty Mississippi, stands Memphis . . . historic, colorful, truly representative of the romantic river cities of the Old South. But considerations other than its charm governed our choice of Memphis as the site for additional aircraft manufacturing plant facilities.

Favorable climatic conditions, accessibility of location, adequate supplies of labor, exceptionally good electric, gas, and water facilities, enlightened and progressive civic and community leadership—all these are factors which influenced the location of a McDonnell Plant at the Memphis Municipal Airport.

Details concerning the type and performance of aircraft which will soon roll out on our runways—are of military necessity, restricted. But you may be sure that these aircraft will play an important role in hastening the day of victory for America and our Allies.

That's our job in Memphis, *now*. But one day, when victory has been won and peacetime transportation is resumed, this old river city will become an important *ocean port*—in the Ocean of the Air. Then, we hope to add our share to the contributions which Memphis and the *New South* will make to the New World of the Air.

**MCDONNELL** *Aircraft Corporation*  
*Manufacturers of* PLANES • PARTS • PLASTICS \* SAINT LOUIS - MEMPHIS \*

# At night on a lonely beach

Dim shadows—low on the horizon—waves foaming on a sandy beach—then pushing through the darkness, landing barges bring threat of invasion to Axis-ruled lands!

*Landing boats and tank lighters are grounding on the beach and our army is establishing a beach head. This scene has been enacted at Guadalcanal—in North Africa and at little-known harbors in New Guinea.*

Built to battle pounding surf—made to stand the jarring impact of landing—tough is the word for these barges. And tough is the word for the giant gears that drop their anchors and raise them. In fact, so tough are the blanks for these gears that cutting them was deemed an impossibility. Foote Bros. engineers and Foote Bros. workmen changed the conception of what was possible. And today, the landing barges which are keeping Hitler's armies pinned to the coast from Narvik to Tripoli

give evidence of how well these special problems were solved.

Here at Foote Bros. new techniques and new manufacturing know-hows are responsible for gears and speed reducers of radically different design and construction—gears light in weight and of extreme precision for aircraft engines—gears of giant size and super toughness designed to stand the grueling punishment that only war can give.

But when the war is won and these same techniques can be applied to peacetime use, American manufacturers may look forward to revolutionary developments in all phases of power transmission.

FOOTE BROS. GEAR AND MACHINE CORPORATION  
5225 South Western Boulevard • Chicago, Illinois



## FOOTE BROS.

*Better Power Transmission Through Better Gears*



Suppliers to  
Leading Aircraft  
Manufacturers

## Formula for Exhaust Systems

Meticulous design  
Superior workmanship  
Specialization  
Unusual experience

Special plant set-up  
Latest equipment  
Time-saving pro-  
duction techniques

*Accuracy*

*Production  
Speed*



**AIRCRAFT  
COMPONENTS, Inc.**

VAN NUYS, CALIFORNIA • WICHITA, KANSAS

# American Aviation

Vol. 7, No. 2

June 15, 1943

### Contents

Govt. Ownership Opposed .....	15
Contract Termination Studied .....	16
Army May Take Flying Schools .....	17
OWM to Aid Mfg. Industry .....	18
Arnold Says 'We'll Win Soon' .....	20
WPB Forms Facilities Bureau .....	21
Helicopters Combat Subs .....	22
Mfrs. Study Postwar Output .....	25
Warner Delivers Wright Lecture .....	26
Legislative Summary .....	32
Gorrell Asks More Planes .....	40
International Operations Discussed .....	58
Furniture Group Enters Industry .....	60

### Departments

Congress .....	32-38	Postwar .....	25-30
Equipment .....	58-59	Transport .....	40-54
Manufacturing .....	60-74	War .....	16-24

### The Independent Voice of American Aeronautics

Published the 1st and 15th of each month by American Aviation Associates, Inc., American Building, 1317 F Street, N.W., Washington, D. C. Printed at The Telegraph Press, Cameron and Kelker Sts., Harrisburg, Pa. Entered as second class matter at Washington, D. C. and Harrisburg, Pa.

WAYNE W. PARRISH, EDITOR AND PUBLISHER

ERIC BRAMLEY, EXECUTIVE EDITOR

DEPARTMENT EDITORS: Katherine E. Johnsen (Congress); Conrad Campbell (Manufacturing); E. J. Foley (Equipment); Peggy Guetter (West Coast); Fulton Catlin (News Assistant); Clifford Guest (Special Assignments); Barbara B. C. McNamee (Training).

On Leave with the Military Services: George Shumway, Leonard Elserer, Charles Adams, David Shawe.

BUSINESS MANAGER, Thomas E. Lindsey  
ASST. ADVERTISING MANAGER, Jean Grabill

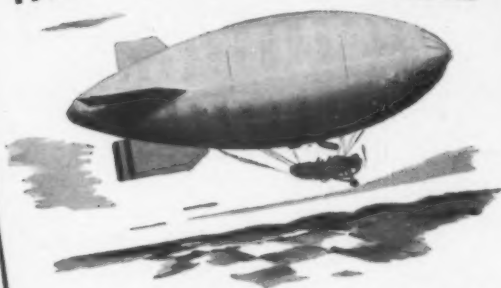
### REGIONAL REPRESENTATIVES:

Miss Peggy Guetter, West Coast Representative, Room 1404, Park Central Bldg., 412 West Sixth St., Los Angeles, Cal. Telephone: Vandike 2680.  
Harry Brown, Midwestern Advertising Manager, 522 Brice Place, Chicago, Ill. Telephone: Lakeview 6704.  
O. R. Eloffson, Eastern Advertising Manager, 2207 Rm. Bldg., 1270 Sixth Avenue, New York, N. Y. Telephone: Circle 6-9446.  
J. Forecast, British Representative, Edwin Greenwood Ltd., Strand, W.C.2, Thanet House, London, England.  
PUBLISHING CORPORATION: American Aviation Associates, Inc.  
Wayne W. Parrish, President; Col. Albert H. Stackpole, Vice-President (in active military service); Eric Bramley, Vice-President; Brig. Gen. E. J. Stackpole, Jr., Treasurer (in active military service); Thomas E. Lindsey, Sec.



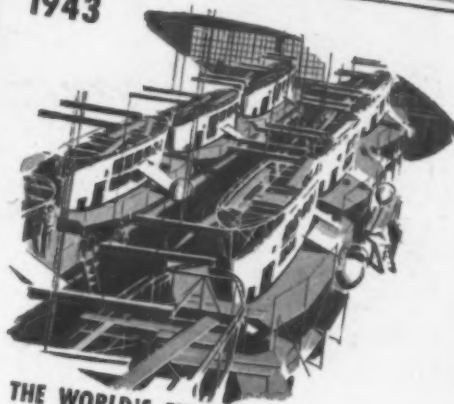
# Trail Blazing in the Skies

1919



**THE PIONEER**  
**COMMERCIAL AIRSHIP** in the United States was the "Pony Blimp," built by Goodyear in 1919 to demonstrate the possibilities of small, lighter-than-air craft. Based at Los Angeles, it ferried passengers to Catalina, located and mapped deep-sea fishing grounds and was frequently employed in photographic work. This small ship of only 35,000 cubic-foot capacity provided much engineering and aeronautical knowledge that was later incorporated in the famous Goodyear blimp fleet.

1943



**THE WORLD'S FIRST**  
**AIRSHIP ASSEMBLY LINE** is operated today by Goodyear in building large submarine-patrol airships for the U.S. Navy. Here, by continuous mass-production methods, squadrons of sky cruisers are being speeded out in rapidly increasing numbers—the largest, fastest, farthest-ranging non-rigids the U.S. Navy has ever used. This high-speed construction is made possible only by Goodyear's quarter-century experience in airship fabrication—a "know how" that is proving invaluable today in guarding this nation's sea lanes.

## HOW GOODYEAR AIRCRAFT CORPORATION SERVES IN AERONAUTICS

1. By building parts to manufacturers' specifications. 2. By designing parts for all types of planes. 3. By re-engineering parts for mass production. 4. By extending our research facilities to aid the solution of any design or construction problem. 5. By building airships and airplanes for the government.





**FIGHTER'S  
FRIEND...**

## **A Dependable, Sensitive Shockproof Microphone**

Confidence—supreme confidence in his arms and equipment—is the secret weapon the American fighter takes into every battle. He knows, for example, that when he wants to give warning of sudden danger, to report an enemy ruse, to transmit an urgent message, his microphone won't fail at the moment of greatest need.

Many of the microphones used by our Armed Forces are made by Kellogg. They meet the rigid sensitivity, transmission and performance specifications of the U. S. Government. But the modern Kellogg plant, with its great production facilities, has capacity to handle contract orders for still more microphones. If the communication equipment you supply for the Armed Forces calls for microphones—hand, palm or throat types—get in touch at once with the Kellogg Industrial Sales Department.

### **Among the Many Products MADE BY KELLOGG**

#### **On Contract for Suppliers to the Armed Forces**

Among the complete systems and components of communication equipment Kellogg is making for military use are telephone and radio earphones; volume control and switch boxes; multi-contact plugs and sockets; capacitors; etc. On your requirements for these and other items, take advantage of Kellogg's 45 years of experience as a leading manufacturer of communication equipment of virtually every type. Precision production methods, skilled workmen, competent engineers and rigid inspection assure that products will meet every specification.

**KELLOGG SWITCHBOARD & SUPPLY CO.**  
6622 S. Cicero Ave., Chicago, Ill.

# **KELLOGG**

WHERE  
ENGINEERING  
AND RESEARCH  
BUILD

*Finer Communication  
Equipment* FOR WAR AND PEACE

(Continued from page 1)

avoided. Some industry officials, however, are critical of CAB for not laying down in its past decisions a definite philosophy on the subject of competition.

**Traffic Problem:** Study and thought on the subject of air traffic control is going forward in the Civil Aeronautics Administration and will continue. Realizing that many headaches will result if facilities are inadequate, CAA is taking steps to make sure its house will be in order when the anticipated postwar flying boom begins. It is estimated that by 1950, airway traffic control will have to handle 20,000,000 aircraft movements. Now-secret war instruments are expected to be of great aid.

**Peak Next April?** Most authoritative view as to when peak production will be reached in the military aircraft program came last fortnight in a statement by T. P. Wright, director of Aircraft Resources Control Office, to the Senate Military Affairs Committee. Peak of employment will require 2,300,000 aircraft workers by next April, he said. His forecast was interpreted as the official government belief that the production ceiling will be reached by them.

**Where They Count:** The only sensible method of measuring production is to take note each month of the number of planes actually flying at the battlefronts, where they count, high government officials believe. So while the argument continues in the press over whether numbers or pounds should be used, the "battlefront" count will probably continue to bear weight behind the scenes. And we're "not doing badly," officials state.

**Aid to China:** Recent statements in Washington that war in the Pacific is to be stepped up are expected to lead to increased aid for China. A substantial increase will be seen in supplies flown into that country both by the Army and by China National Aviation Corp. Statistics on tons now being transported by air and tons to be flown in must remain unpublished for security reasons, but the increase will be substantial. Despite recent extravagant claims, however, tonnage will not equal that formerly transported over the Burma Road, at least for quite some time.

**Centralization:** Trend toward centralization of research on air transportation is seen in the fact that the Office of Air Transport Information will be taken over by the Civil Aeronautics Board's economic bureau on July 1, the start of the new fiscal year. OATI has been doing a good job of centralization under the Dept. of Commerce, where it is now, and observers believe its transfer to CAB will complete the job. Another reason for the move is that CAB is the logical agency to seek appropriations for OATI.

**New Power:** Electrical engineers are predicting that the gasoline turbine operating at high speeds will be made light enough to drive cargo plane propellers through suitable gears, and that even further ahead electrical drives will be used between these turbines and the propellers. Electrical engineers claim this system will open up the possibility of novel motor and propeller mountings that show promise of many advantages from aerodynamic considerations.

**Grounded Luftwaffe:** Germany's Luftwaffe, which has been hurt (but not yet mortally wounded) by Allied bombings, has more planes than has appeared in European and African skies recently, officials are convinced. They are equally convinced that the failure of the Nazi air force to cover an evacuation from Africa and to fight off more vigorously the Allied bombings of the Continent has been caused by a gasoline shortage. A grounded air force is no air force, and Allied bombing targets may be picked with this in mind.

**Reminder:** In the midst of speeches predicting super-transport planes in the postwar era, Edward P. Warner, vice chairman of the Civil Aeronautics Board, has pointed out that there will still be a place for the twin-engined 20 passenger plane. Frequent schedules, often the secret of an airline's success, may depend on such planes for a long time to come.

## THE COMMANDO



**"40 and 8" OF TODAY**

With its 4-Blade Curtiss Electric Propellers,  
this modern counterpart of the French "40 men or 8 horse"  
freight car of 1917 is changing the tactics of battle today—as it will change the  
economies of transportation tomorrow.

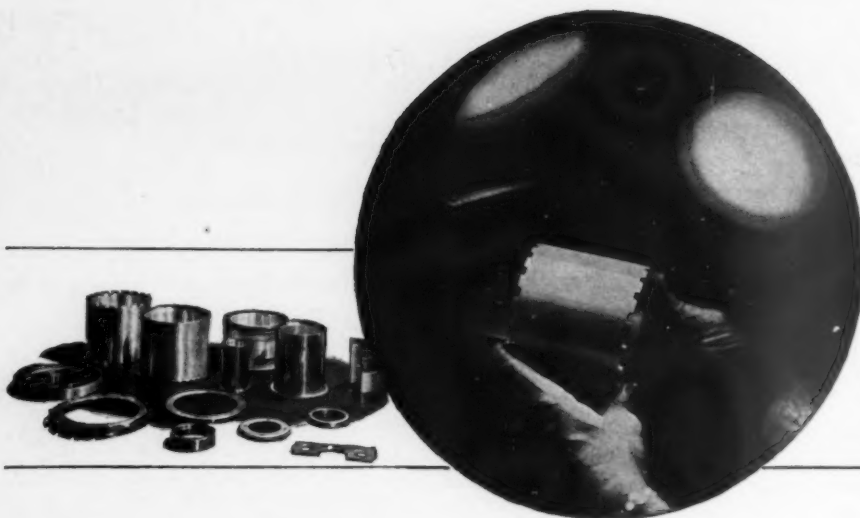


ELECTRIC  
**Curtiss**

PROPELLERS







"Black Light" testing makes certain the bond is perfect on edges of all Mallory Bearings. Under its magic rays, microscopic voids and cracks show up by fluorescence. A filter cuts out visible radiation from the "Black Light", allowing only ultra-violet radiation to pass.

# MALLORY Bearings

## *Meet Critical Loads Superbly*

**W**HERE ordinary bearing surfaces are inadequate to meet the stresses and strains a fighter plane's engine must undergo, Mallory Bearings function marvelously. They can take the terrific pounding and fatigue stresses imposed by suddenly applied loads from a high powered pursuit plane in action.

Mallory Bearings are made by Mallory's Mallosil Process of bonding silver to base metal backings. They provide a tough, homogeneous, heat dissipating silver surface of high fatigue resistance; ample strength and hardness; and high resistance to seizure.

What is more, Mallory Bearings are precision made. Through use of newly designed precision tools and test instruments, skilled Mallory craftsmen have set remarkable records for exactness and uniformity in producing bearings, bushings, pinion races, gear races and other aircraft engine parts. With tolerances measured in split-thousandths, they are turning out ever-increasing quantities of precision parts with an accuracy and uniformity considered impossible only a few short months ago.

Continuous experimental designing and testing indicate even greater results for the future. The experience and technique gained in War production will be invaluable for commercial motors development when Peace has arrived. Consult us on the possibilities of the Mallosil Process for you.

**P. R. MALLORY & CO., Inc., INDIANAPOLIS, INDIANA • Cable Address — PELMALLO**



Trademarks Reg. U. S. Pat. Off.—Mallosil, Rectostarter, Vibrapack

# MALLORY

P. R. MALLORY & CO. Inc.

**SERVES THE AVIATION, THE AVIATION-INSTRUMENT AND THE AVIATION-COMMUNICATION FIELD WITH WELDING TIPS, THE MALLOSIL PROCESS—BEARINGS, SPECIAL ALLOYS, ELECTRICAL CONTACTS, VIBRATORS, VIBRAPACKS, CONDENSERS, ROTARY AND PUSH BUTTON SWITCHES, ELECTRONIC EQUIPMENT, COMMUNICATIONS HARDWARE, RECTOSTARTERS**



BUY WAR BONDS AND STAMPS

## From a mysterious world

You are looking at men who are part of a group which has spent more time farther from this earth than probably any others who have ever lived!

They are Boeing flight engineers recording by camera and visual observation the readings on a maze of high-altitude test equipment. Extensive research at 35,000 feet and above is one of the reasons the Boeing Flying Fortress\* is able to operate at higher altitudes under combat conditions than any other bomber.

Here is a world utterly alien to any which you know, a world of incredibly

thin air and brilliant blue skies where weird things happen.

Radio plays strange pranks up there in the stratosphere. Engines lose their power. Oil turns to mush, and windshields sprout ice whiskers in the 67-below-zero temperature.

Yet these and many other problems have been solved so well by Boeing research that the Flying Fortress today performs in some respects even better 7 miles up than it does at sea level!

Probably you will never have occasion to travel at such extreme altitudes. But

once the war is won you will fly swiftly and luxuriously at 20,000 feet and thereabouts . . . thanks in large measure to the pioneering done by Boeing flight test crews.

It is a characteristic of Boeing to do every job a little better than is required. In engineering, manufacture and performance, Boeing products have always exceeded the claims advanced for them.

*It is true of the Flying Fortress today, and it will be true of many a new product tomorrow . . . if it's "Built by Boeing" it's bound to be good.*

DESIGNERS OF THE FLYING FORTRESS • THE STRATOLINER • PAN AMERICAN CLIPPERS

\*THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BOEING TRADE-MARKS

# BOEING

# Editorial

(Continued from page 1)

What is the central purpose for which air transportation is to exist, Mr. Warner asks. "If the primary aim is to be the rendering of genuine public service to the largest possible number of people, freeing their personal movements and their communications, and the movements of the products of their manufactures and arts and tillage, and bringing into the stream of commerce the products of regions now inaccessible, and enriching the lives of the people of those regions in return, the development will follow a certain course, and certain types of aircraft will be sought.

"If on the other hand air transport is to be judged primarily in terms of its contributions to national prestige, and used as a pawn in a political game, we shall have another type of service, and a demand for aircraft to a different specification, in which showiness will play a larger part than serviceability.

"In purely physical terms, air transportation is making the world one neighborhood. If there is so little wisdom among us at the end of this war that we lose the opportunity to make the world a neighborhood in fact, the handicapping and perversion of the development of air transport will be a part of the price that we shall pay."

Here, then, are the issues that surround the entire subject of international air transportation. It is an issue which involves, for one thing, private enterprise versus government ownership. It involves a monopoly versus many operators. It concerns the economics of the airplane, of all types of traffic, of air cargo, air mail, and passengers. If the airplane is to be used simply as an instrumentality of the government for policy and prestige, gone are the hopes of low passenger fares for the masses of the people, of free and easy communications, of the technical developments that come only and solely from private competitive enterprise.

Perhaps the greatest fallacy in arguments being pushed forward today in some quarters is the reference to the precedent established in Europe over the past twenty-five years. Air transportation in Europe has been far more an expression of government policy than it has been of a commercial transportation system built to the traffic requirements of the public. Outside of the Swedes, the Dutch and the Swiss, there have been no exponents of traffic development, per se, in Europe. And only a glance at the European picture with its score of closely-packed nationalities serves to provide the reasons why the airplane has been rigidly controlled by the various governments. Airspace in a tense and militarized Europe is not a commercial asset—it is primarily military.

But is the war being fought to resume this tense and restricted attitude toward airspace? Or are we fighting to release the airspace to the peoples of the world to bring the benefits and advantages of air transport to all parts of the globe? Those who are thinking of restrictions, of government-dominated airlines, of a network of airlines that stifles competitive development—those people are working selfishly against the interests of the peoples of all countries.

A few weeks ago an airline executive told us of a statement by a powerful official of another govern-

ment. "Air is not transportation, it is government policy" was the statement repeated to us. What a tragedy that such officials cannot see the airplane as a utility in the public interest! Such a policy can withhold the utility of the airplane from mankind for a time, but it is doomed to defeat in the long run. Why is it necessary to wait?

## Encouragement From London

IT IS encouraging to those who believe in private enterprise for foreign air transportation to find a group in London urging the British to have more than one international airline and to advocate private enterprise as the proper medium for developing such airlines.

The British aviation industrialist Mr. Oliver Simmonds, who has been a Member of Parliament since 1931, issued a statement in this country outlining the purposes and aims of the Joint Air Transport Committee which he heads up. Significantly enough this committee comprises the Association of British Chambers of Commerce, the Federation of British Industries and the London Chamber of Commerce—all large and representative business organizations.

Since World War I the British have centered their principal air transport interests in one company, and this company has been dominated almost entirely by the government. Other airlines, privately owned, never were given equal opportunities to expand.

There is no doubt about the pressure that will be applied for state-owned airlines, for many countries are not large enough to maintain more than one company. And there is no doubt that pressure from abroad for state-owned airlines will have a reverberating effect in this country. But the great future of world air transport must depend upon competitive private enterprise with suitable government regulation. Mr. Simmonds' activities in promoting private enterprise in England can be looked upon favorably on this side of the Atlantic.

## Ruthless Chopping

WHEN the Army Air Forces was faced with the tremendous job of development and expansion at the beginning of the war it sought all the help it could from private enterprise. Especially in the field of training did it have to rely upon the many well-equipped schools that had basic facilities at hand. The Army persuaded, cajoled, and virtually ordered the schools to take as many contracts as they could handle. Millions of dollars of private capital were poured into barracks, airports, equipment and payrolls.

Much of this contract work was not destined to remain until the end of the war. A few of the oldtimers realized this, but many others who had faith in the integrity and paternalism of government, did not. Cancellation of Army contracts is inevitably a

(Turn to page 10)





## WHITE SUPER POWER...

### America's "Aero-Engineered" Motor Trucks

FOUR YEARS AGO, White announced *Super Power*—America's first motor trucks to make use of the new and stronger alloys, and actual component parts, first developed for aviation's high horsepower requirements.

TODAY, White Super Power is still "America's only *aero-engineered* motor truck." It has proved itself in hundreds of millions of miles of long, hard commercial service and, more important now, on the fighting fronts of the world in the Army's tank destroyers, half-tracs and scout cars.

Happily, White was ready with this development in time to meet the war emergency . . . and part of the credit is due to the aviation industry's original research. In the tremendous expansion of air transportation after victory, you can count heavily on "America's only *aero-engineered* motor trucks" to complement on the ground the most advanced transportation in the sky.

#### THE WHITE MOTOR COMPANY • CLEVELAND

*Builders of U. S. Army Tank Destroyers, Scout Cars, Half-Tracs, Prime Movers and Cargo Trucks, the complete line of Super Power Trucks and Tractors, City and Inter-City Coaches, Safety School Busses and the Famous White Horse.*

- 1 AVIATION TYPE  
sodium-cooled valves.
- 2 AVIATION TYPE  
hydraulic valve lifters.
- 3 AVIATION TYPE  
valves and seats,  
Stellite faced.
- 4 AVIATION TYPE  
copper lead bearings,  
Indium treated.

# White

FOR MORE THAN 40 YEARS THE GREATEST NAME IN TRUCKS

# Editorial

(Continued from page 8)

cold-blooded surgical operation, as the manufacturers will find out in the not-too-distant future.

Meanwhile the Army has eliminated the technical training schools which had saved the day for the AAF when the AAF had only meager facilities of its own. And now the primary contract flying schools are jittery that they will be next to get the axe. Whether their fears are groundless or not is difficult to determine, but the trend away from civilian participation in the war has been evident from the start. Perhaps the primary flying schools will escape, for after all the AAF has no primary training facilities of its own.

The unfair part of Army cancelations is its disavowal of financial responsibility. More than one mechanics' training school is "out" to the tune of hundreds of thousands of dollars. One we know of will have to write off a net loss of \$300,000. Why would it not be fair for the Army, which forced the expansion of private enterprise in the first place, to assume a write-off responsibility when contracts are permitted to lapse? What a terrific price we pay for winning the war when economic wreckage is left strewn around the country as the aftermath.

We hope the AAF will not go to the extreme of militarizing the primary contract flying schools. Such a move would seem to be wholly unnecessary at this stage. Also we hope when the training quotas are reduced, as ultimately they will be, that the reductions will be made in the interests of all parties and not accomplished ruthlessly with heavy financial losses to the contractors. Meantime it is well to keep in mind that wartime products and services are subject to sudden collapsing. The balloon can be deflated very quickly. Many Army goods and services will be radically reduced long before the final shot of the war is fired.

## A Noble (and Notable) Redemption

**I**N DAYS gone by we have directed many critical editorial barbs at government officials, especially the Civil Aeronautics Board. Too often, perhaps, the emphasis in editorial pages is on the critical side, while the good things people do and say are overlooked.

An editorial target of this page many days past was Edward P. Warner, now vice chairman of the Civil Aeronautics Board. Those were the days when the CAB was a first-class debating society, weighing out air mail pay by the gram and generally holding up commercial aviation development in this country. Mr. Warner was one of those whom we believed was being restrictive rather than expansively constructive.

It is worthy of editorial note, however, that Mr. Warner has turned over a new leaf. He is now a progressive member of the Board and his lengthy Wilbur Wright Memorial address before the Royal Aeronautical Society in London late last month was a masterful contribution in more ways than one. One quotation alone suffices to commend Mr. Warner on a truly great redemption and we quote it here for its significance as coming from a member of the CAB:

"My hopes for the future are rooted in the central

hope that air navigation agreements will henceforth be drawn on the presumption that air transportation is a good thing; that the need of the whole world to share in its benefits should be a prime consideration in the planning of air routes; and that there shall be no return to those evil days when air transport was regarded with such caution and suspicion that it had to be administered in paltry and carefully-measured doses, with the authorization to operate internationally being parsimoniously doled out, schedule by schedule." (The italics are ours.)

Would that the Civil Aeronautics Authority created by Congress with a vast amount of power in 1938 had had this outlook! Mr. Warner, thou has now acquired wings!

## The CAB Begins Traveling

**A** HEALTHY sign is the number of trips planned this summer by members of the Civil Aeronautics Board. For a number of years the CAB members have been criticized because they didn't get out into the field to see what was going on in the industry. At last the criticism has brought results, for all members are making use of their time in reaching out to widely-separated areas.

Most extensive trip is being undertaken by Josh Lee, the newest member. His forthcoming aerial journey through South America will undoubtedly bring criticism from various quarters that he is taking a big junket within six months after assuming office. We do not look lightly on Mr. Lee's trip, however, and believe it is in order as part of his education.

## Up From the Ranks

**A**S AIR transport companies expand their personnel to meet war and postwar requirements, they will do well to give opportunities for advancement to the legion of loyal men who have worked with unbounded enthusiasm and complete indifference to office hours for the development of their respective companies. The best reservoir of material for junior executive positions is within the respective companies themselves.

Too often large companies scour the country for specialized men and overlook good material in their own organizations. Obviously men from outside the industry will have to be drawn upon to fill the many positions opening up in days of expansion to come. But one of the greatest assurances of morale in an organization is the opportunity for advancement. For fifteen years the airlines of this country have attracted the cream of the crop of young men. Many of these will get discouraged if they are passed over for executive positions, providing, of course, that they are suitable material. In our recent travels in many states the question of opportunity for advancement was uppermost in personnel problems, and the questions are coming from men who have been in the industry for five or ten years. There's a lot of good executive ability out in the field. Don't pass it over!

WAYNE W. PARRISH



# AIRCRAFT ARMOR PLATE

—by **SIMONDS**  
meets Army and  
Navy specifications

Simonds can supply you.  
Your inquiry is invited.  
Simonds Saw and Steel Co.  
Armor Plate Division

Fitchburg, Mass.



For fine achievement in War Production . . .  
the joint Army and Navy "E" was awarded to  
the men and women of Simonds Saw and Steel Co.



# SIMONDS

SAW AND STEEL CO.  
FITCHBURG, MASS.



Buy War Bonds and Stamps for Victory





## 3 WAYS TO GET IN THIS LINE-UP

If you are 18 to 26 years old, inclusive:

(1) If not yet called for induction under Selective Service, apply now at the nearest Aviation Cadet Examining Board. No school or college credits required. If you pass physical and mental examinations you'll be instructed on further procedure.

(2) If you have been called for induction, you can't apply direct. But after induction in the Army, you may apply for Aviation Cadet training after you're in the ranks.

If you are 17 but not yet 18:

(3) You can go now to your Aviation Cadet Examining

Board and volunteer in the Air Corps Enlisted Reserve. If you pass physical and mental examinations, after you become 18 you'll be assigned for preparatory training leading to appointment as an Aviation Cadet. Enlistment under 18 requires parents' or guardian's consent.

*If accepted for Aviation Cadet instruction, you will not be able to choose your school, but we hope you may be with us at Ryan. Wherever you are sent, be assured that you will receive the world's finest flight training.*

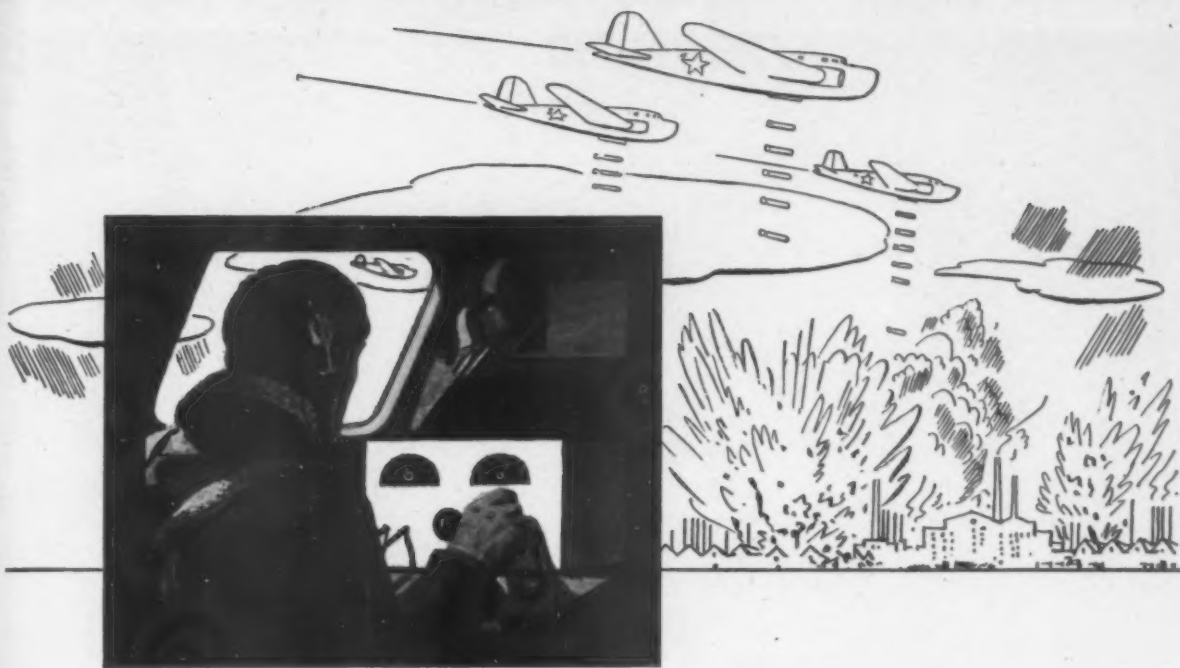
**RYAN SCHOOL OF AERONAUTICS**  
Headquarters, San Diego, Cal.  
Hemet, Calif. Tucson, Arizona

**Ryan**  
SCHOOL  
OF AERONAUTICS



Ano  
Gulf

Reje  
in th  
duct  
instr  
cutti  
every  
inch  
W  
imm  
cover  
Resu  
creas



**Gulf Cut-Aid steps up production**

**of airplane radio covers 20%**

**-rejections entirely eliminated**

**Another example of the superior performance of  
Gulf's revolutionary new cutting oil**

Rejections due to cracking from excessive heat generated in the tapping operation was the bottleneck in the production of aluminum airplane radio covers in a large instrument plant until Gulf Cut-Aid was used as the cutting fluid. With soluble cutting oil, one cover out of every five cracked as the tap cut the threads in a one-inch drilled hole.

With Gulf Cut-Aid, this bottleneck was eliminated immediately! Since adopting Gulf Cut-Aid over 500 covers are tapped without a single cover being cracked. Result: Rejections entirely eliminated, production increased 20%.

In plant after plant, Gulf Cut-Aid is demonstrating its superiority as a cutting fluid for aluminum and other non-ferrous metals.

In addition to its function as the ideal cutting fluid, Gulf Cut-Aid has another important function—it is an effective energizer for other cutting oils, regardless of type or viscosity. Blended in varying proportions depending upon the various requirements of the job, the use of Gulf Cut-Aid with other cutting oils makes possible higher cutting speeds and results in improved finish or longer tool life, or both.

Call in a Gulf Service Engineer today and let him demonstrate—in your plant—how Gulf Cut-Aid and other Gulf quality cutting oils can help improve your machining practice. Gulf Oil Corporation, Gulf Refining Company, Gulf Building, Pittsburgh, Pennsylvania.

**Mail This Coupon Today**



Gulf Oil Corporation — Gulf Refining Company  
3800 Gulf Building, Pittsburgh, Pa.

AA

Please send me, without obligation, a copy of the new revised booklet, "Gulf Cutting Oils," which includes a helpful Machining Guide.

Name

Company

Title

Address



## Look to the heavens

For centuries, humanity has looked heavenward for guidance and spiritual strength in its hour of trial. And today, the enslaved countries of the earth look to the heavens for deliverance as well. Even those most oppressed... those who feel that all warmth and kindness must be forever gone... find renewed hope in the promise echoed in the roaring motors of great planes overhead.

Truly the dictators who sowed the wind are reaping the whirlwind. For the airplane, used so devastatingly by them

against defenseless nations, is now a mighty force turned upon the aggressors themselves. *They* can look to the heavens only in terror... in fear of the retribution that will mean their end.

But for civilized peoples everywhere, the heavens carry both a pledge of victory and a vision of the future. A prophesy of new brotherhood is written in the blue firmament above... assurance of an earth grown friendlier, a world community more closely interfused, more surely inte-

grated through the swift magic of flight.

Right now, and until the day of victory, Chicago and Southern planes fly first in the service of our nation. But when that victory comes... and the wartime development of aviation is turned to normal pursuits... we stand ready to extend a new concept of travel to a country that has never ceased to look to the heavens... to an America that, in the fullness of its inventive genius, will trace its destiny across world skies on healing wings of peace.

## CHICAGO and SOUTHERN AIR LINES

*The Valley Level Route*

CHICAGO • ST. LOUIS • MEMPHIS • JACKSON • NEW ORLEANS • LITTLE ROCK • SHREVEPORT • HOUSTON

U.  
Pol  
Dis  
By

THE  
me  
recom  
gard  
portati  
princip  
it was  
this m

One  
govern  
foreign  
direct,  
The

be a  
air car

In vie  
quarters  
well as  
rier, the  
group is

The co  
to compl  
in prelin  
mission t  
who will  
the White

Many  
out, but  
ported t  
private o  
that exis  
industry.

While  
"many" U  
to fly in  
"many"  
venience  
proved, a  
after cer

The gov  
mentality  
commercial  
Aeronauti  
ment for  
could ope

The con  
proposals  
Pogue, CA  
in postw  
should be  
rights of o  
passage),  
cial outlet  
on passen  
wherever

It is rep  
the comm  
without a  
quarters an

Ameri



## U. S. Committee Against Govt. Ownership

### Policy Group Also Disfavors Monopoly By Single Carrier

By WAYNE W. PARRISH

**T**HE government's interdepartmental committee to study and recommend U. S. policies with regard to postwar foreign air transportation has agreed upon two basic principles in its discussions to date, it was learned authoritatively early this month.

One is that there should be no government ownership in any U. S. foreign air carrier, direct or indirect, or in any degree.

The other is that there should not be a monopoly by a single U. S. air carrier in the foreign field.

In view of growing pressure in some quarters for government ownership, as well as for a single U. S. foreign air carrier, the decision of the interdepartmental group is considered significant.

The committee is working at top speed to complete its recommendations, at least in preliminary form, by June 15 for submission to Secretary of State Cordell Hull who will, presumably, transmit them to the White House.

Many problems remain to be worked out, but in general the committee is reported to be thinking along the same private competitive and regulatory lines that exist in the domestic air transport industry.

While the committee believes that "many" U. S. airlines should be permitted to fly in foreign air commerce, the word "many" is relative in that public convenience and necessity would have to be proved, and operations could start only after certification.

The government would be the instrumentality to secure rights of transit or commercial outlets abroad, but the Civil Aeronautics Board would be the instrument for determining which U. S. airlines could operate.

The committee generally adopted the proposals made recently by L. Welch Pogue, CAB chairman, that the first step in postwar international air transport should be the securing by all nations of rights of commercial air transit (innocent passage), after which rights of commercial outlets (rights to discharge and take on passengers and cargo) be obtained wherever possible.

It is reported on good authority that the committee entered upon its studies without any instructions from higher quarters and has had a free hand to date

in reaching its decisions. Committee members are aware, however, that the recommendations are subject to being altered or upset completely by high Administration circles. The representative group on the committee, however, comprises an imposing governmental front and the recommendations will doubtless carry considerable weight.

Offsetting the committee's thinking is an unmistakable trend in certain government and legislative circles for government ownership of foreign air transport in some degree.

The committee was formed in January with Assistant Secretary of State Adolf A. Berle as chairman. Members of his group are: Assistant Secretary of War for Air Robert A. Lovett; Assistant Secretary of the Navy for Air Artemus Gates; Under-Secretary of Commerce Wayne Chatfield Taylor; Civil Aeronautics Board Chairman L. Welch Pogue; Director of the Office of Emergency Management Wayne Coy. Subsequently Milo Perkins, director of the Board of Economic Warfare was added.

Below this top policy committee is a working committee from which the recommendations have originated. Mr. Pogue is chairman of this subcommittee, acting as liaison between the two groups. His colleagues are: Col. Harold Harris, of

the AAF Air Transport Command; William A. M. Burden, special assistant to the Secretary of Commerce in charge of aviation; Paul T. David, of the Bureau of the Budget; William Brinkerhoff, Board of Economic Warfare; Lieut. Comdr. Malcolm J. Aldrich, of the Navy Dept.; and Thomas Burke, chief of the division of international communications of the State Dept.

The committee's proposals are generally satisfactory to domestic airlines desirous of entering the foreign field, it is believed, but would not harmonize with the views of Pan American Airways which feels that one large single foreign air carrier is the best solution to the postwar problem.

Nor do the recommendations agree with the Pan American proposal to sell 49% of its stock to the government, thus making it a quasi-governmental airline. Such a proposal was made officially as long as a year and a half ago and is by no means dead at this time.

Whether the committee's report to Secretary Hull will be made public in full is doubtful, but there is a possibility that its major conclusions will be released in due course. Because of the complexity of the problems it is possible the committee will request an extension of time

(Turn to page 50)

## British Air Transport Group Opposes Monopoly By One Line

**S**TRONG opposition to a postwar monopoly for any single British airline and support for a number of separate organizations under the British flag "in which private enterprise must play its proper part," was expressed June 2 by the British Joint Air Transport Committee, a non-government body.

The committee's statement was released in Washington by Oliver E. Simmonds, M.P., a member of the group, managing director of Simmonds Development Corp. and Simmonds Aerocessories, Ltd., and vice president of Simmonds Aerocessories, Inc.

Expressing itself as being "profoundly exercised" over the present state of British air transport, the committee asserted that a British Empire policy both for the remainder of the war and for the peace should be agreed upon as the first step "and at once."

Coincident with the committee's statement came reports from London that the British government is consulting with the dominions on the question of postwar civil aviation problems, but that only provisional replies have been re-

ceived. For this reason, the U. S.-British aviation conference has been postponed until September (*American Aviation*, June 1).

Deputy Prime Minister Clement Attlee told the House of Commons on June 1 that some designing staffs are working on four different types of post war transports, and that their work is not interfering with the war effort.

The complete text of the committee's important statement follows:

"The Joint Air Transport Committee of the Association of British Chambers of Commerce, The Federation of British Industries and the London Chamber of Commerce has since the commencement of this year been examining the current and prospective position of British Air Transport, and has received the fullest information both from the appropriate national organizations and from a number of gentlemen qualified to speak on these questions.

"It regrets to report that it is most profoundly exercised by the situation which is revealed. Various discussions have taken place between Ministers and representatives of the Committee, but in spite of the appreciation of the im-

(Turn to page 50)

# Committee Releases Findings on Termination of War Contracts

Termination of war contracts, predicted to run as high as a hundred billion dollars and involving thousands of prime and sub-contractors, has been made the subject of an intensive study by an interdepartmental committee which has now released its preliminary findings.

Composed of representatives of the War Department, the Navy, Maritime Commission, the Procurement Division of the Treasury and War Production Board, the committee has predicated its research upon the expressed preference of war contractors for a definite arrangement to be worked out in advance. This being matched by the Government's belief that it is unjust to the taxpayers to pay a contractor full profit on long term contracts upon which work had been only started, the committee set out for its own guidance the objectives sought to provide a uniform plan.

These objectives were listed as: (1) to facilitate war production by reducing the uncertainties of businessmen with respect to treatment which they would receive in event of termination, so they could concentrate their efforts on the job of production; (2) to seek speed and simplicity in the settlements so that return to peacetime production could be as complete and rapid as possible; and (3) to seek to be as fair as possible to the contractor and to the Government.

Insofar as some of these objectives were in conflict with others, some compromises have been rendered necessary, the report

states. So to arrive at a basis from which to proceed, the committee arranged a tentative draft which was submitted to business, professional and labor organizations.

This draft provided for either complete or partial termination at the option of the Government and sets forth the steps to be taken by the contractor upon receipt of the discontinuance notice. The draft then lists the items, title to which is to be transferred to the Government and explaining the conditions under which the transfers are to be made. The Government would then be directed to make payment for all completed supplies promptly and, upon determination of amounts due, on those partially completed.

The amount to be paid the contractor was to be settled by agreement, or if such agreement could not be reached within 90 days, by formula. The draft then detailed types of costs to be reimbursed in settlement and specified deductions which the Government might make from this total.

The committee states that after studying objections to the proposed recommendations for settlement, it has decided to suggest a plan which will include two formulae, with the contractor having the option as to which one he will elect. These are roughly: (1) To pay for all costs incurred plus a predetermined percentage of these costs in lieu of profit, making no distinction between the completed and uncompleted portions of the contract, or, (2) to pay the contract price for the

## 100 Planes Take Off Daily from Labrador

One hundred planes a day!

The number of United States bombers and fighters leaving Labrador for the European war theater in one 24 hour period recently reached this total, it was announced in London by Col. Paul E. Burrows, commanding the new European wing of the AAF Transport Command. American planes will fly to Europe in even more increased numbers before 1943 is ended, Burrows promised.

completed portion of the contract, the costs incurred with respect to the uncompleted portion, and an allowance for profit calculated in some way to correspond to the percentage of completion of uncompleted portion of the contract. The second basis is the one now used in the standard War Department termination article.

## Navy Procurement Investigation

A subcommittee to investigate the Naval aircraft procurement program has been appointed by Chairman Vinson (D., Ga.) of the House Naval Affairs Committee. The subcommittee, whose report will be confidential, Vinson said, will ask the Bureau of Aeronautics for a complete list of the number, type, and character of all planes in the Navy.

# Congress Studies Methods for Handling Postwar Surplus Planes

Problems of disposition of the large quantities of aircraft that will be in the hands of the military services at the end of the war are now getting attention in Congress with two legislative proposals under consideration.

Although it is unanimously agreed that some government agency must be delegated or created to handle surplus war materials, there is a marked disagreement to date as to the composition of the agency and its powers.

Chairman Clarence F. Lea (D., Cal.) of the House Interstate and Foreign Commerce Committee was studying a draft of legislation proposing a Federal Surplus Aircraft Corp. as this issue went to press. He is planning introduction of the bill at an early date.

This bill has the support of the Board of Economic Warfare and the interdepartmental committee studying U. S. foreign air policy, Mr. Lea said, and would create a corporation which would comprise representatives of the Civil Aeronautics Board, the Army, Navy and State Departments. There would be no non-governmental representation. Whether the board would be a subsidiary of the CAB, or created as an independent government agency, has not been decided.

From another quarter in Congress, however, a legislative proposal has already been made. The House Committee on

Executive Expenditures has reported out a bill (H. R. 2795) which would create a joint Congressional committee of five Senators and five Representatives, "to undertake promptly a full and complete study and investigation of types, quantities, values, locations, and custody of war materials and other tangible property, both real and personal, acquired, held, or utilized for military purposes . . ." The committee would report the results of its investigations within six months after enactment of the bill, with recommendations for the disposal of war surpluses.

This committee, headed by Rep. James O'Leary (D., N. Y.), has held extensive hearings on disposition of war surpluses, with special reference to aircraft, and come to the conclusion that more study was needed by Congress before creating an agency. The committee has estimated that the value of war surpluses will be about \$50,000,000,000.

Government officials concerned with aviation have been aware of the forthcoming problems of surplus aircraft, especially aircraft suitable for cargo and passenger traffic. They feel that some central agency must be made responsible for giving away, leasing, selling or destroying surplus planes in some manner that will not be detrimental to the nation's postwar world air commerce or to its manufacturing industry.



**Bomber Outpaces Bomb:** A Brewster Bucaanier dive bomber is shown outracing a bomb it has just released from a wing as both head for the enemy target.

## Bing Crosby's Del Mar Becomes a War Plant

Now Bing Crosby's racetrack has gone to war.

Larry Crosby, brother and manager of the crooner, announces that the \$1,000,000 Del Mar Racetrack is being converted into a plant to manufacture parts for a California aircraft factory. The track, now owned by the state, is under lease to the Del Mar Turf Club, which is going into business on its own, using the track buildings, Crosby said. The U. S. Marine Corps has been using some of the track buildings and land for boat drills.

## RCAF Growing Rapidly

Canada will double her anti-submarine campaign in the Western Atlantic this season and increase the flow of air crews to every theater of war, Air Minister C. G. Power told the House of Commons last fortnight. More than 10,000 planes are being used in Canada for training and more than 40,000 Canadians are taking part in air operations abroad, Power reported. He added that Royal Canadian Air Force casualties now number 7,050, of which 5,683 were overseas, with 611 known prisoners of war.

# Primary Flying Schools Uneasy Over Militarization Reports

The 60 private flying schools providing primary training under contract for the Army Air Forces have begun to wonder if they are to be next on the list for militarization or elimination. The recent action of the AAF Technical Training Command in permitting all of its contracts with civilian mechanics' schools to lapse on June 30 threw a case of jitters into all other contractors with the AAF.

The answer is difficult to determine at this time. High AAF officials maintain no such trend is in the wind for primary flying schools. But this hasn't stopped the uneasiness of the flying school executives who would be "out" to the tune of millions of dollars if such drastic action occurred.

In the case of the mechanics' schools it was over-expansion of facilities by the TTC—a bad job of planning. But with the primary flying schools the Army does not have its own facilities. The problem is one of manpower.

All primary training of AAF pilots is done in the 60 primary contract schools; the Army has no existing facilities for their training at this time. But trouble has arisen because about 50 to 75% of the instructors in these schools are between the ages of 22 and 32 and thus subject to draft for active combat duty.

No clear policy for their treatment has been drawn up by the War Manpower

Commission or Selective Service. Selective Service's Activity and Occupational Bulletin No. 33-4 issued January 1, 1943 is concerned with "Educational Services—War Department Contract Flying Schools." The bulletin lists as essential activities "the training of students, including the instruction of pilots, meteorologists, engineers, bombardiers, air navigators, and mechanics in the following flying schools under contract with the War Department." Then follows a list of the basic contract schools. Part III is concerned with the essential occupations in these schools and includes "Instructor (All courses)."

The bulletin was circulated to all local draft boards and brought an increase in cooperation and deferments of instructors from many. Others continue to draft the men, using Selective Service's loop-hole that while an occupation may be "essential," the man in it may not be necessarily. WMC and Selective Service officials when asked by American Aviation why a more clearly defined policy had not been drawn-up, declared "It's up to the local boards." They reiterated the boards' statement which may be foundation for the whole discussion. "If these men are so essential, why not militarize them?"

This question has caused some schools to fear the Army would take them over entirely or arbitrarily eliminate them as it did the Technical Training Schools. Top AAF officials, however, are reliably reported as saying, "These schools are doing an excellent and most satisfactory job. We do not want to discontinue them."

(Turn to page 24)

## New Plan Devised to Release Thousands of WTS Reservists

Recent developments in CAA's War Training Service indicate that organization is rapidly outgrowing the amateur class to become an efficient, smooth-working program. A combined attempt is now being made by WTS and the Army Air Forces to reduce the pool of enlisted reservists to a manageable size which can be put through all the training courses within a year.

On June 1, CAA announced its plan to release large numbers of these pilots into other military programs by the end of the month. Of over 14,000 men enlisted last year, 8,786 are still awaiting training. WTS officials hope, by this new action, to move out all but 7,000 who will be assigned to other work for which they are qualified.

It is stressed that the release of this number will not diminish the amount of pilot training to be carried on by WTS in the next 12 months. Present Army and Navy cadet programs keep 245 WTS schools fully employed with at least 50 cadets apiece on active duty.

The reasons officially given for this action are that more men were enlisted last year than can be carried through all the stages of non-combat pilot training this year. Also, the Army Air Forces have less need now to call on CAA for non-combat pilots. And, thirdly, the supply of civilian or commercial type aircraft suitable for advanced training is

limited and new production cannot be authorized since priority is now being given to heavier fighter and bomber planes.

A letter has been sent to all Air Corps enlisted reservists expressing regret that the necessity has arisen to reduce the number awaiting pilot training but that the urgent need for every physically-fit man to be in some essential activity requires that anyone "who cannot be effectively employed in the capacity for which he was originally selected" should be promptly released to other duties.

The letter offers four choices to these men. (1) If between the ages of 18 and 26, they may apply for aviation cadet training. If qualified, WTS trainees will be given priority in assignment to classes and will be called to active duty with the Army Air Forces. (2) They may apply for active duty with the AAF in an enlisted status. After completion of basic military training, qualified trainees may be assigned to instruction in an Air Force Technical or Aerial Gunnery School, with application for Officer Candidate School open after three months, provided vacancies exist. (3) They may request discharge from the Air Corps Enlisted Reserve and return to civilian life. Men who are discharged will necessarily come under the jurisdiction of their local Selective Service Boards. (4) Men who have successfully passed through one

or more of the pilot training courses may remain with WTS to complete their training as pilots, subject to passing the AAF physical examination (Form 64, Class 2) after July 1, and subject to the availability of an assignment in the training program.

The enlisted reservists still awaiting training, who are the primary objects of this new move (although any reservist may choose one of the four alternatives), are divided into the following groups: those awaiting elementary training, 1890; awaiting secondary training, 3324; awaiting cross-country training, 2556; awaiting link-training, 886; awaiting instructor's training, 130. It is expected that most of those to take advantage of this offer will come from the first two classifications.

WTS points out that men, in the lower age brackets, who are best qualified, physically and otherwise, for duty as pilots will be given preference if more than 7,000 men remain available after action has been taken on the AAF's offer and after the first physical screening has been completed.

The men who are retained with WTS will be carried through all CAA pilot training courses, including the secondary instructor's course. At the end of their training successful graduates will be assigned to the AAF's Central Instructor School at Randolph Field. Others, before going there, may be employed for a while as instructors with WTS.



# Aircraft Industry Benefits Seen In New Byrnes' Office

By BARBARA B. C. McNAMEE

Aircraft production is expected to benefit at least as much as any other single feature of the war program by the President's executive order of May 28 creating the Office of War Mobilization. Improvements in aircraft procedures, like everything else, however, hinge on the big question in Washington minds this week: will Byrnes utilize all the authority given him in the order and will the President actually delegate to him all home-front decisions?

WPB spokesmen believe that if the authority given is as broad as the wording of the order indicates, jurisdictional disputes between the 81 Washington agencies and departments will be eliminated or at least will be brought subject to a quick decision. But it is toward the possibility of the inauguration of straight-line procedures to speed up production policies and schedules that the aircraft program looks most hopefully. For instance, it is anticipated that final decisions upon new types or models of planes, new quotas and new production tangles can be made in a direct manner between manufacturers, WPB and OWM, instead of the present method which often consumes weeks of negotiations and conferences between WPB, ARCO and the armed services.

## Nelson A Member

Emphasis is laid upon the fact that Donald M. Nelson has been made a member of the new overall group, thus dissipating rumors of his declining power. It is generally agreed in Washington that Nelson and Charles E. Wilson, head of the Aircraft Production Board have and are working together in perfect harmony. Therefore, industry men feel that Wilson's expressed interest in preferential treatment for aircraft will be ably seconded by Nelson in his new capacity.

The powers conferred on Byrnes as Director of War Mobilization are "to provide for the more effective coordination . . . to develop unified programs and . . . unify the activities of Federal agencies and departments . . . in production, procurement, distribution or transportation." When Nelson was appointed chairman of the new War Production Board, Jan. 16, 1942, he was given powers "to exercise general direction over the war procurement and production program . . . perform the function of assuring unity of policy and coordinated consideration."

Nelson had superseded the Supply Priorities and Allocation Board set up August 28, 1941, "to insure unity of policy and coordinated consideration . . . with respect to procurement, production . . . or transportation . . ." This, in turn, followed the Office of Production Management established Jan. 7, 1940 . . . "to insure effective coordination of those activities of the several departments, corporations and other agencies . . ." OPM usurped most of the powers of the still-extant Office of Emergency Management set up May 25, 1940 to "coordinate and supervise . . . for the purpose of secur-

ing maximum utilization and coordination of agencies and facilities."

It is then clear that the new Executive Order follows the general pattern of thought which produced previous attempts at overall war control. It has made no attempt to solve the problems created by duplications of jurisdiction, such as the flagrant ones involved in the establishment of the War Labor Board and War Manpower Commission in addition to the Labor Department. It serves only to place a super-czar over an almost endless stratification of minor czars—and in some cases (such as OPA) the super-czar has no authority over his underlings.

First action to be taken by Byrnes in his new capacity is indicated by his radio address on May 31 in which he admitted that "officials of the Government have made mistakes . . . but I pledge you that I shall do all in my power to bring about the same coordination of efforts among the civilians in government agencies that exist on the military fronts."

At a special press conference Byrnes indicated he understood his job would be to "save the President many burdens. The President's time must be devoted to strategy of war and the staffs charged with the supervision of the military programs." Washington observers suspect the President has wearied of his task of Commander-in-chief of the home front with all the attendant ills involved in that position. They suspect it is more exciting to be Commander-in-Chief of an Army and Navy on the offensive.

Congressional leaders appeared pleased



**Air Friends:** Just before Rear Admiral Charles E. Rosendahl (newly assigned to command all airship training for the Navy) changed his captain's stripes, he was welcomed back to lighter-than-air by Karl Fickes, manager of Goodyear's airship operations, who predicts much postwar business for lighter-than-air.

## Few Southpaws Fly

A left-handed man has less chance of becoming a flier than his right-handed brother, according to a medical survey just completed by the Royal Canadian Air Force.

Left-handed applicants have been washed out of the RCAF initial training schools twice as fast as right-handed men, although in more advanced classes the former failed at only half the rate set by right-handers, the survey shows. Those whose characteristics were all left, or all right, had better chances than those with some right and some left tendencies.

The survey was designed to eliminate training of men who have slight chances of ever becoming fliers. Simplified physical examinations and greater elasticity in choosing applicants are the results, the RCAF reports.

with the Executive Order which closely paralleled many suggestions made in the Tolan and Kilgore Bills. They felt it important that there should be one person designated to settle all disputes such as the rubber-high octane gas-destroyer escorts controversy. They rejoiced at what they called the "Economic High Command" although it is dubious how high a command that is which has no control over either wages or prices. Perhaps most important of all they promised that "if Byrnes is hamstrung for lack of legal authority, then Congress will pass the necessary legislation and allot the necessary appropriation to supplement his powers."

## Jurisdictions Pondered

Congress was worried as were other Washington officials over the failure to include both labor and management in the "war cabinet." Other problems which now loom large as Byrnes assumes his new responsibilities are the question of jurisdiction over the Armed services; represented on OWM by Secretary Knox and Secretary Stimson, they are also represented in the Cabinet by these same men who are therefore at liberty to go over Byrnes' head to the President whenever their side loses the struggle for allocating short materials, increasing or decreasing programs. The position of Harry Hopkins is not at all clear either, for he has an even closer touch with the President. Although the Order empowers Byrnes to issue directives reorganizing any agency as to its functions and powers he does not have the necessary supplementary power of firing and hiring to make any changes effective.

These and many other questions puzzle observers but all concede that the success or failure of OWM depends not on any broad and vague organizational chart but on the power which Byrnes himself is willing to exert and the extent to which the President will back him. Everyone hopes that he will be able to do what each successive director and agency has failed to do—that is to mobilize the resources and manpower of the Nation into a smooth-working mechanism for war.

## Petroleum Research and War in the Air: A series of stories of original Esso research developments that help give U. S. planes an edge in the air.



hen the war first took to the stratosphere, military and civilian engineers found themselves also a little "up in the air."

To operate control bearings under these conditions called for a grease with seemingly impossible characteristics. It had to operate freely, without stiffening, down as low as 65 degrees below zero Fahrenheit. It also had to hold, without bleeding or running, at ground temperatures which, in desert sun, run 130 to 150 degrees high. It had to be water resistant. It had to avoid gumming as planes stood in stock or in transport.

The answer was found where a lot of hard-to-get petroleum answers have been coming from for years... in the Esso research laboratories. The new grease, called Beacon Lubricant M-285, will work down to minus 77 degrees, will resist melting up to 370 degrees ...and that was that!

The whole list of such special products and processes

developed over the years by continuing Esso research goes far to explain why the U. S. uses its petroleum resources more effectively than any other country on earth.

\*ARMY-NAVY SPECIFICATION AN-Q-3.



# Arnold Tells West Point Class 'We Will Win Soon'

**T**HE United Nations Air Arm will not "pull the punches" until Axis morale is cracked, General Henry H. Arnold, chief of the Army Air Force, told the largest graduating class in the history of the United States Military Academy June 1. Significantly, Gen. Arnold was the first air force man ever to hand out diplomas at West Point.

"We are going to end the war and end it soon by bombing military objectives consistently, and with the maximum destructive power that we possess," he said. "By such operations we will end it quicker, we will cut down the casualties, we will in the end save hundreds of thousands of lives."

Of the 514 graduates, 23 were sons of generals, one of them Gen. Arnold's own son, William Bruce Arnold. Another of the general's sons, Henry H. Arnold, Jr., was graduated from West Point last year.

Although predicting a "decisive year," the general warned that "this war has not yet been won."

"Make no mistake about that," he cautioned. "Germany and Japan remain mighty military powers and are fighting on the ground, at sea, and in the air with a determination that will require our best efforts if we are to win. Still, it is no paradox to say that the question is no longer who will win the war, but rather how it will be won, and how long it will take."

He said he is convinced that Axis morale cannot take destructive round-the-clock hammering, and that "their morale is already beginning to crack."

"The RAF and the AAF with their bombing are building up a situation which, by all reasoning, should make history repeat itself," the general asserted.

"It was the Germans, the Italians and



Cartoon in The Montreal Gazette

the Japs that started the bombing of cities causing death and injury to non-combatant women and children" he recalled. "Witness Warsaw, Rotterdam, London, Coventry, Plymouth, Pearl Harbor, Manila. It was the airmen of the Axis powers who machine-gunned refugees streaming away from combat areas. It was the airmen of those two nations who brought every square mile of the belligerent nations into the combat zone by their indiscriminate bombing."

"But that was when the pendulum was swinging their way, when they thought they had the world licked. Now things have changed. Now the tide is turning and they, in turn, are on the receiving end and things are different."

"Don't let me give you the idea that we are setting out deliberately to bomb large cities or recreation resorts where civilians—women and children—are congregated. On the contrary, we select only military objectives for our bombing and our bombers have demonstrated an accuracy impossible to attain by any of the Axis airmen, but we do have our 'overs' and our 'shorts,' bombs which, for one reason or another, miss the objectives."

"The Germans, the Italians and, yes, the Japanese, see the hand-writing on the wall. Our plans call for bombing to destruction their factories, their transportation and communications systems, their U-boat yards, the industries making their critical items—and they don't like it. They can't take such destructive day and night hammering. They are crying for us to stop. Their morale is already beginning to crack."

"So we find them doing the thing they know best—using propaganda starting in Berlin, trying to work on our sentiments; to weaken our all-out air effort. They protest, telling how grim, horrible, devastating such warfare is. They call at-

## 'Unaccustomed As I Am . . .'

Ernie Pyle, well-known and widely-read Scripps-Howard columnist, writing from North Africa just after the conclusion of the Axis rout, remarked:

"Unaccustomed as I am to air superiority, I must say that after a brief association with this notorious stranger I find him one of the pleasantest companions I've ever dealt with. When you've got air superiority you can sit down in your tent and just keep on sitting, without running out every time you hear a plane for a cautious check-up. When you've got air superiority you can drive along in your jeep and not hit the ditch every time you see a bird soaring in the distance. . . . Yes, air superiority is a wonderful thing. It's one of life's small luxuries to which I am eager to stay accustomed."

tention to our bombs hitting and killing, wounding women and children, destroying churches, schools and other non-military objectives.

"They are trying to make us hesitate in the creation of a powerful air arm, to make us pull the punches. To all this our answer must be 'Yes, war is a ruthless business and you of the Axis have made it far more horrible.' But we are going to end it, and end it soon, by bombing military objectives consistently and with the maximum destructive power that we possess. By such operations we will end it quicker, we will cut down the casualties, we will in the end save hundreds of thousands of lives."

"I believe we are now ready for a decisive year. The job we have done in the production of material and in the training of men in the past 18 months has been staggering. Take airplanes alone—we now manufacture in 150 days as many airplanes as we did in the whole 36 years before the war. Think of it, as many airplanes roll out of the doors of our factories in 150 days as were manufactured between the time of the Wrights' Kitty Hawk flights in 1903 to June, 1938. In the Air Force alone we now have five times as many officers as there were three years ago in the whole peacetime army. And everything else is comparable."

## Sinclair Says Air Attacks Will Save Great Slaughter

Paralysis of German war power by the Bomber Command is the one hope for getting to Berlin without the slaughter which the land battles of the last war entailed, Sir Archibald Sinclair, British Air Minister, believes.

Speaking recently in Edinburgh, Sinclair declared that the unconditional surrender of the enemies of the United Nations is the only way in which the war should be finished, and that Berlin is the only place where European hostilities should be concluded.

He asserted that recent aerial attacks against Germany are more than raids—"they are battles." He gave statistics showing that a Nazi army is "tied down" on the Western Front exceeded in size only by Hitler's forces in Russia. This army, he said, is trying to ward off the British aerial onslaught by manning anti-aircraft guns and searchlights.

## 300 Brazilian Aviation Cadets to Train in U. S.

Diplomatic negotiations recently concluded between the Brazilian and United States governments will permit 300 Brazilian air cadets to receive flight training in this country. These men have been arriving here in small groups during the past two weeks.

The cadets are coming by plane to Miami Beach where they will spend 10 days being given instruction in preliminary observation at the AAF's Technical Training Command station. Then, assembled in groups of 50 each, they will be sent to various pilot-training schools throughout the country.



ng,  
ing  
ary  
ate  
to  
our  
ess  
ode  
ing  
ing  
with  
we  
end  
su-  
eds  
r a  
in  
the  
this  
ome  
an  
hole  
as  
of  
nu-  
ths'  
939.  
five  
three  
army.

S.

con-  
nited  
azil-  
ing  
in  
ar-  
the

e to  
and  
elim-  
nic-  
as-  
will  
school

43



## "That nice Jones boy"

IS SURE RAISING HELL

Remember the Jones boy in your neighborhood?

"A nice kid," the neighbors said. Always reading books about modern miracles like aviation and electronics. Making plans, working to make a place for himself in the better world he saw ahead.

We can give you an authentic report on that nice Jones boy because we built the plane he flies today. This U. S. Army Bell Airacobra was designed on the daring new idea of a single engine fighter with a cannon in the nose. It's a hell-raising plane.

And that's right down Jonesie's alley.

Today in the war torn sky above one of the fighting fronts, he's looking for trouble. And doing a swell job of handling it. He's strafing ground troops, smashing tanks and landing barges, knocking enemy bombers and fighters out of the sky.

That nice Jones boy is sure raising hell...with the Axis! Peace will bring another era of aviation pioneering. We'll be ready for

our assignments with war-perfected techniques for designing, engineering and building the peace planes of the future. © Bell Aircraft Corporation, Buffalo, New York.

*Airacobras for victory—*  
FUTURE PLANES FOR PEACE  
**BELL** *Aircraft*

PACEMAKER OF AVIATION PROGRESS

# CURTISS *Seagull* \*



## *Eyes* FOR OUR CONVOYS

Scouting the paths of convoys across the limitless miles of submarine-infested seas, U. S. Navy Seagulls and British Seamews are protecting thousands of lives and millions of tons of war supplies.

Behind these modern scout-observation aircraft lie years of development reaching back to that February day in 1911 when Glenn Curtiss successfully landed his pontoon-equipped biplane along-

side the U. S. S. Pennsylvania near San Diego—and to November 12, 1912, when the first ship catapult launching of an airplane was made.

**CURTISS-WRIGHT**  
*Corporation*  
AIRPLANE DIVISION

Member: Aircraft War Production Council, East Coast, Inc.

\*British designation—Seamew

Fa

A  
with  
lates  
ingto  
Its  
ment  
utiliz  
existi  
the r  
tion  
estab  
ery f  
tion  
Hea  
Facili  
man  
the C  
sion,  
ducti  
J. B.  
uling  
lestei

The  
outlin  
be re  
cedur  
tiality  
establ  
sion  
existi  
Progr  
priate  
and c  
are s  
needs  
These  
Divisi  
the I  
functi

Rigi  
tion p  
shuffl  
provid  
admin  
Bureau  
vide s  
ties o  
Facilit  
trial  
gether  
pated  
mendin  
Chairm  
The  
direc  
project  
which

Navy

The  
with P  
plane  
Admira  
House

At a  
that \$  
moving  
Moreel

The  
purcha  
estimat  
in the  
that a  
ment fo

A me

# Facilities Bureau Is Formed Within War Production Board

A Facilities Bureau has been set up within the War Production Board as the latest development in the shifting Washington production picture.

Its task will be, an official announcement stated, "to see that the maximum utilization is obtained from the nation's existing plant facilities and to plan for the minimum amount of new construction which will be required." With the establishment of this bureau, the machinery for the switch-over from construction to production is complete.

Headed by Charles E. Volkhardt, the Facilities Bureau reports to Vice Chairman Ralph J. Cordiner. It is divided into the Office of the Director; Project Division, directed by F. J. C. Dresser; Production Resources Division, directed by J. B. Campbell; and Progress and Scheduling Division, directed by W. E. Mulletstein.

The general functions were officially outlined as follows: Project Division to be responsible for prescribing the procedures and criteria by which the essentiality of programs and projects will be established; Production Resources Division to promote effective utilization of existing facilities and equipment; and Progress and Scheduling to assist appropriate agencies in assuring that facilities and construction programs and projects are scheduled in accordance with the needs of the war production program. These will replace the Facilities Program Division, the Construction Division and the Facilities Divisions, all of whose functions will be absorbed.

Rigid cutbacks in the future construction program have made necessary a reshuffling of the facilities end of WPB to provide a closeknit organization for the administration of the new program. The Bureau's chief function will be to provide staff service for the cutback activities of the newly-organized Industrial Facility Committee and the Non-Industrial Facility Committee, bringing together statistics on immediate and anticipated needs and supplies and recommending programs to the Program Vice Chairman, J. A. Krug.

The Industrial Facilities Committee will direct the examination of all factory projects under construction to determine which can be eliminated and which are

essential; they will attempt to avoid all new construction in the future by plant and machine-tool conversions. "The entire construction program will be examined under this light before any approvals to new construction are given," WPB officials told *American Aviation*.

The newly-organized bureau will review and analyze present and anticipated requirements for, and existing supplies of, facilities and construction using as a basis data obtained from claimant agencies and the appropriate units of WPB. It will analyze essentiality of facility and construction programs and make recommendations to the appropriate facility committee. Included in its functions are the review of unfinished facility and construction programs and the recommendations to the appropriate committee for elimination of non-essential programs and projects.

WPB officials stress that the Facilities Bureau has no power of eliminating companies or cancelling contracts on the basis of inefficiency. Where plants are in difficulty, WPB engineers will go into the factories, working with the management and making such suggestions as the extension of sub-contracting, the reshuffling of schedules or the realignment of plant

## Midwest Has Big Aircraft Output

Bread and bombers at the same time!

This describes war production in Region VI of the WPB, comprising the states of Illinois, Wisconsin, Indiana, and Iowa. A recent survey by the board reveals that this diversified region is producing both the tools of war and sustenance for the soldiers in large quantities.

Region VI holds \$2,672,000,000 worth of aircraft production contracts, ranking third in aircraft manufacture despite the fact that it had not concentrated on planes before the war. On a percentage basis, considering only private industry, the region accounts for 7% of the aircraft engines and parts manufactured throughout the country.

Chicago is the hub of the region, the survey discloses. Here is the largest plane engine plant in the country and a large cargo plane factory. To the east, just outside the metropolitan area, is South Bend, Ind. This traditional college town is now devoting its efforts to many phases of the aviation industry, turning out struts, carburetors, and other parts for fighting planes. One aviation plant alone employs nearly 9,000 workers, of whom 1,002 are women.

Planes are being turned out in Evansville, Ind., in the southern part of the state. The band instrument firms of Elkhart, Ind., have been converted to make parts for airplane engines. Aircraft gears are produced in the Indiana state capital, Indianapolis.

Aircraft production in Region VI is in addition to production of meats, dairy products, bread and bakery products, and food preparations, for which the Middle-West has long been famous.



Chicago Tribune

facilities to improve efficiency and the rate of production. Only those plants which produce munitions no longer needed in the war program and which cannot be converted to other purposes will be eliminated.

Other duties of the Facilities Bureau will be to assist the appropriate industry divisions and claimant agencies to minimize the need for new construction by increasing the maximum utilization of existing buildings and machines. They will also endeavor to reduce to a minimum the use of critical materials for construction, capital equipment, tools and machinery. Planning the scheduling of facility programs and projects and maintaining current information on the progress of facilities or construction, rendering all assistance necessary to the speedy completion of such projects will be additional responsibilities. Finally, with the approval of operating officials, they will establish procedures and standards for processing proposed programs through the Washington and field offices of WPB.

## Australians in Favor of Giving Air Bases to U. S.

A recent Gallup poll in Australia reveals that the overwhelming majority of people there are in favor of granting bases in Australia to the American Navy and air forces after the war. The preponderant opinion is that such bases should be leased for a limited period, say 25 years, but nearly one-fourth of the Australian population is willing to see American occupation of strategic bases become permanent.

Opinion concerning postwar bases was sounded on the following issue:

Would you favor or oppose letting the United States Navy and Air Forces use bases in Australia after the war?

Favor .....	75%
Oppose .....	15%
Undecided .....	8%

Those who indicated themselves in favor of such a move were asked:

Should this right be granted permanently, or should bases be leased for a limited period, say 25 years?

Permanently .....	23%
Limited period .....	47%
Undecided .....	7%

## Navy and PAA to Operate Florida Seaplane Base

The Navy has agreed to joint-operation with Pan American Airways of PAA's seaplane base at Dinner Key, Fla., Rear Admiral Ben Moreell has reported to the House Naval Affairs Committee.

At a protest by Rep. Melvin J. Maas that \$180,000 asked by PAA as cost of moving its radio station was excessive, Moreell agreed to renegotiate.

The Navy's former plan of outright purchase of the Dinner Key base at an estimated cost of \$2,500,000 met opposition in the House Committee on the grounds that a seaplane base is not a good investment for postwar use.



# Helicopters Going Into Anti-Sub Warfare

## Successful Test Is Disclosed; Craft to Guard Merchantmen

**T**HE War Dept. has officially endorsed ship-based helicopters as "feasible" weapons against the submarine, and plans are going forward for the installation of small decks on Liberty ships in order to put the rotary wing craft into operation as standard and accepted war equipment.

Clearing up much of the confusion which has existed regarding practicability of helicopters and plans of the war strategists for its use, this policy was announced as a result of successful tests in Long Island Sound in which the small wingless craft made 24 landings and take-offs from the deck of a tanker traveling at varied speeds.

These tests, said an official War Dept. announcement, marked:

1. The first time a helicopter had ever been landed or flown from a ship deck.
2. The first ship-to-shore ferry flight by helicopter.

The tests, conducted on May 6 and 7, were shrouded in military secrecy until last fortnight when the War Dept. released information saying "a new anti-submarine weapon is available."

The U. S. Maritime Commission and the War Shipping Administration joined the Army in sponsoring the demonstration of the amphibious helicopter, which was developed by the Army and manufactured by the Sikorsky Division of United Aircraft Corp. Col. H. F. Gregory, AAF, Materiel Command, Wright Field, piloted the craft in the experiments.

The take-off space on the deck of the tanker was 78 by 48 feet, closed in fore and aft by deck housing, superstructure and masts. Flotation equipment installed on the helicopter made it possible to land and take off on water as well as on ship or land. Water landings and take-offs were demonstrated by Col. Gregory, as well as ship-to-shore ferry hops.

Operating from the deck of the moving tanker, the helicopter demonstrated its now familiar characteristics. It rose from the deck, or descended vertically, made take-offs backwards, landed sideways, and demonstrated its ability to hover above the deck.

In the Army's announcement of the test results there was no reference to the Navy viewpoint recently expressed by Secretary Frank Knox who said that the helicopter's range and load-carrying capacity is too limited for it to be very useful against submarines.

Announcement of the plans for helicopter decks on Liberty ships came from Rear Admiral Howard L. Vickery.

Col. Gregory has been the project officer and chief pilot in the Army's work on the craft. Richard W. Seabury, assistant deputy war shipping administrator for fiscal affairs, and James L. Bates, director of the Maritime Commission's



Official Photos by Army Air Forces

**Sidewise:** Approaching for a sidewise landing, the helicopter gets set to plump down on a tiny deck space on the tanker, in successful tests conducted by the Army and Coast Guard.

Technical Division, both of whom were present at the tests, have been in charge of experiments for their respective agencies.

The Army pointed out it has been interested in the helicopter since 1923, when a model was constructed and flown, but proved impractical, as did later models. Army interest persisted, however. In 1941 a contract was made with the Sikorsky Company, which produced a new model. Joint efforts of this company and the Army Air Forces produced the present craft, which was first tested in April, 1942, at Stratford, Conn., and then flown to Wright Field for further testing.

While the Army's efforts in development of the helicopter give promise of a great contribution outside its own sphere, its interest originally was in the use of the ship for land warfare, the announcement pointed out.

Experiments have demonstrated that the craft can hover above the ground while personnel climb to the ground on a rope ladder, making it possible to discharge or pick up personnel in country where even the helicopter cannot land. The sound of the motor can be muffled and, since there is no propeller noise, a flight of these ships could operate behind enemy lines under cover of darkness in practically complete silence.

Its ability to hover stationary in the air makes it an excellent artillery observation post with direct telephone communication to the ground. Camouflage of the stationary craft would be exceedingly effective, according to Army spokesmen.

Representatives of the Army, the War Shipping Administration, the Maritime

Commission, the Coast Guard, the British Royal Navy, and the British Air Commission were among those who witnessed the Long Island tests.

Rear Admiral Howard L. Vickery, vice-chairman of the Maritime Commission and Deputy War Shipping Administrator, issued the following statement in Washington after the demonstration:

"Under the circumstances existing at the time of the demonstration of helicopter's ability to take off and land on the decks of tankers, the United States Maritime Commission and the War Shipping Administration believe that the feasibility of the operation has been sufficiently proved. These agencies are now preparing a plan for a small deck to be installed on Liberty ships without interfering with the cargo arrangements, which will permit helicopters to be used at sea, thus giving the ships added protection from submarines."

"The Maritime Commission and the War Shipping Administration have been working on this development for some time through Richard W. Seabury, Assistant Deputy War Shipping Administrator for Fiscal Affairs, and Mr. James L. Bates, Director of the Technical Division, Maritime Commission, in collaboration with the Army Air Forces."

Colonel Gregory, the Army's helicopter pioneer, was born in Rockwall, Tex., and has made his home at Shelby, Miss. He was graduated from Mississippi College in 1926. He entered the Army in 1926, and completed flying training in 1929. Author of many technical papers on rotary wing and wingless aircraft, he is a recognized authority on these types.

# ROHR

PARTS ☆ ASSEMBLIES

*"Get thar Fustest  
with the Mostest!"*

Expressive phrase of a famous Confederate fighter



BUILD 'em bigger, fly 'em faster, do it first and do it in *quantity*--America's axiom for supremacy of the air! No goal in American history was ever more urgent! ROHR production fighters force their tasks of precision parts manufacture and vital assemblies toward this end. ROHR-equipped air giants fly to battle in ever increasing numbers, rushed there by the men and women on production lines who know that *speed saves lives*!

HELPING TO WRITE  
THE STORY OF TOMORROW

ROHR AIRCRAFT CORPORATION



CHULA VISTA, CALIFORNIA

## War Agencies Review

### WPB

ORGANIZATION OF THE PRODUCTION CONTROLS BUREAU and assignment of principal functions to its organizational units has been completed. Units consist of Office of the Director, Harold Boeschstein; Controlled Materials Plan Division; Scheduling Production Division, and Inventory Policy Division.

The Production Controls Bureau develops policies, plans and general methods for controlling distribution of materials, for scheduling production and delivery of products and for controlling inventories. These plans and policies are subject to review of the Program Vice Chairman, after consultation with the Operations Vice Chairman, the controlled materials divisions, and other appropriate organizational units of the War Production Board and Claimant Agencies.

MANAGEMENT AND LABOR must prepare to meet slowing production and even idle plants in certain war industries, as the nation balances the supply of war goods with demands of the fighting fronts, William L. Batt, Vice Chairman of WPB, advised.

FOUR TECHNICAL SUB-COMMITTEES have been formed to work with the Ferrous Foundry Industry Advisory Committee. They will serve to advise the Government on technical and engineering problems which develop in gray iron, malleable castings, steel castings and heat and corrosion resistant products.

WAR PRODUCTION BOARD'S EDICT that plant construction be stopped, even where projects were under way, was followed by organization of the Facilities Bureau "to see that the maximum utilization is obtained from the nation's existing plant facilities and to plan for the minimum amounts of new construction which will be required."

CMP REGULATION NO. 8, covering production requirements of controlled materials producers, has been amended to indicate that in some instances, where a controlled material producer requires the same basic material, such material may be made available through the allotment procedure rather than by directive.

DIRECTIVE NO. 23 is issued for the purpose of providing for "review by representatives of WPB of certain priorities actions taken by the Army and Navy and other government agencies for approval of placement of certain purchase orders rated by such agencies and to define the scope of such review."

### WMC

REPORTING THAT LOS ANGELES was short by 61,000 workers, Lawrence A. Appley, executive director, stated that WMC has plans to import workers and it will seek a Congressional appropriation to pay transportation costs to the Coast.

National and regional WMC officers meeting in Los Angeles recommended that all Southern California be placed on a 48 hour week and remain classified as a Group 2 area. H. R. Harnish, area WMC director, estimated that the 48 hour week in Los Angeles county would provide additional man-hours equivalent to a labor force of 30,000 to 35,000 new men or women workers.

WMC CHAIRMAN PAUL V. McNUTT disclosed that 2,700,000 more men will be drafted this year to meet the 10,800,000 man goal set by the Armed Forces for Dec. 31, 1943. He predicted that this will permit industrial deferment of only 1,500,000 men and that employers to insure industry against disorderly withdrawal of men, must file Manning tables and replacement schedules promptly.

MORE THAN 80,000 men and women have been trained for radio work in Engineering, Science and Management war training courses since October 1940, Paul V. McNutt, Chairman announces. He added that 18,000 have been enrolled in electronics courses. These free courses are offered through more than 220 colleges and universities in more than 1,000 communities.

### NWLB

INSTRUCTIONS FOR HANDLING certain types of wage and salary cases under the "Hold-the-Line" Executive Order No. 9328 have been sent to regional boards and industry commissions. The Board pointed out that under the Executive Order "reasonable" adjustments of wages and salaries in case of promotions, reclassifications, merit increases, incentive wages or the "like" may be made by the Board if such adjustments "do not increase the level of production costs appreciably or furnish the basis either to increase prices or resist otherwise justifiable reductions in prices." Within the meaning of that provision, the regional boards were instructed that they may deal with the following three types of cases within their sound discretion:

1. "Intra-plant adjustments which are necessary to do equity and to promote production and which are not mentioned in the May 12 directive of Economic Stabilization Director."
2. "Applications by employers not under the Fair Labor Standards Act to pay time and one-half for hours over 40, or to change from a fluctuating to a fixed work week for the purpose of computing over-time as currently permitted to employers who are under said act."
3. "Adjustments incident to the improvement of work conditions which do not involve increasing basic wage rates and which do not exceed the sound prevailing practice in the industry or area."

### Fair Employment Practice

NEW AUTHORITY FOR THE COMMITTEE ON FAIR EMPLOYMENT PRACTICE was provided in an Executive Order issued by the President. The order specified that all contracting agencies of the Government "shall include in all contracts hereafter negotiated or renegotiated by them a provision obligating the contractor not to discriminate against any employee or applicant for employment because of race, creed, color, or national origin," and requiring him to include a similar provision in all sub-contracts. At the same time anti-discrimination measures of the same nature were ordered for all Government departments concerned with vocational and training programs for war production.

The Fair Employment Practice Committee, formerly operating under WMC, has now been made an independent unit responsible directly to the President.

### FSA

Col. Hans Christian Adamson of the Army Air Forces, who has just recovered from experience of floating on a raft in the Pacific with Captain Eddie Rickenbacker, will visit schools in 15 cities to talk to students and administrators about the high school's role in wartime. Col. Adamson is also conferring with school administrators about the Victory Corps and aviation programs in schools.

### Navy

Sidney A. Mitchell of New York City has been appointed vice chairman of the Navy Department Price Adjustment Board, which is charged with the duty of renegotiating Navy war contracts. Simultaneously, Sidney W. Farnsworth, also of New York City, has been appointed a member of the Board. These additions increase the personnel of the Board to eight members.

## Militarization

(Continued from page 17)

They give what appear to be persuasive reasons to back that statement. Strongest of all perhaps is the complete absence of Army primary flight schools or of facilities which they could adapt for the purpose. "There hasn't been and won't be any attempt to build them," the AAF declares.

Secondly, if the AAF were to militarize the schools, it would require over 100,000 additional men, at a time when manpower is at a premium, to train the same number of cadets under a military set-up. The AAF believes at this time that military supervision only is enough at the primary training level, because the soldiers are engrossed in acquiring a new skill-flying, and will have plenty of time in the advanced stages of training to learn to be a soldier. Additional men would also skyrocket the costs per hour which have been gradually decreasing under the present civilian set-up.

A third important consideration from the Army point of view is the expense in both money and critical materials which would be involved in the necessary enlargement of existing facilities to house and sustain an additional 100,000 men, should the Army take over the civilian schools and fields. The civilian instructors and personnel now employed live in nearby towns whereas Army officers and enlisted men would have to be housed in barracks, would need mess halls, additional plumbing, etc.

These reasons were among the most important factors which led the Army to adopt the present program four years ago. The reasons still obtain. The AAF avows it has no intention of disturbing this set-up except as a last resort if draft boards continue to take the majority of the instructors. Aeronautical Training Society, which represents the contractors, is now working out a system with the Air Forces to stabilize key personnel in the schools, perhaps by enrolling them in the enlisted reserves. If this is accomplished within the next few weeks, officials claim all discussions of militarization will be dropped. ATS is also hopeful that a rotation system may be worked out to enable graduates of the AAF's Central Instructor's School at Randolph Field to replace primary school instructors who are anxious for combat duty.

A new angle to the manpower problem may be the adoption of a uniform for civilian instructors. It is reported that the Army has selected a suitable uniform which all instructors at the primary schools will wear. A similar uniform is being planned for War Training Service school instructors. It is thought that the wearing of uniforms may stop some of the pressure being applied to local draft boards.

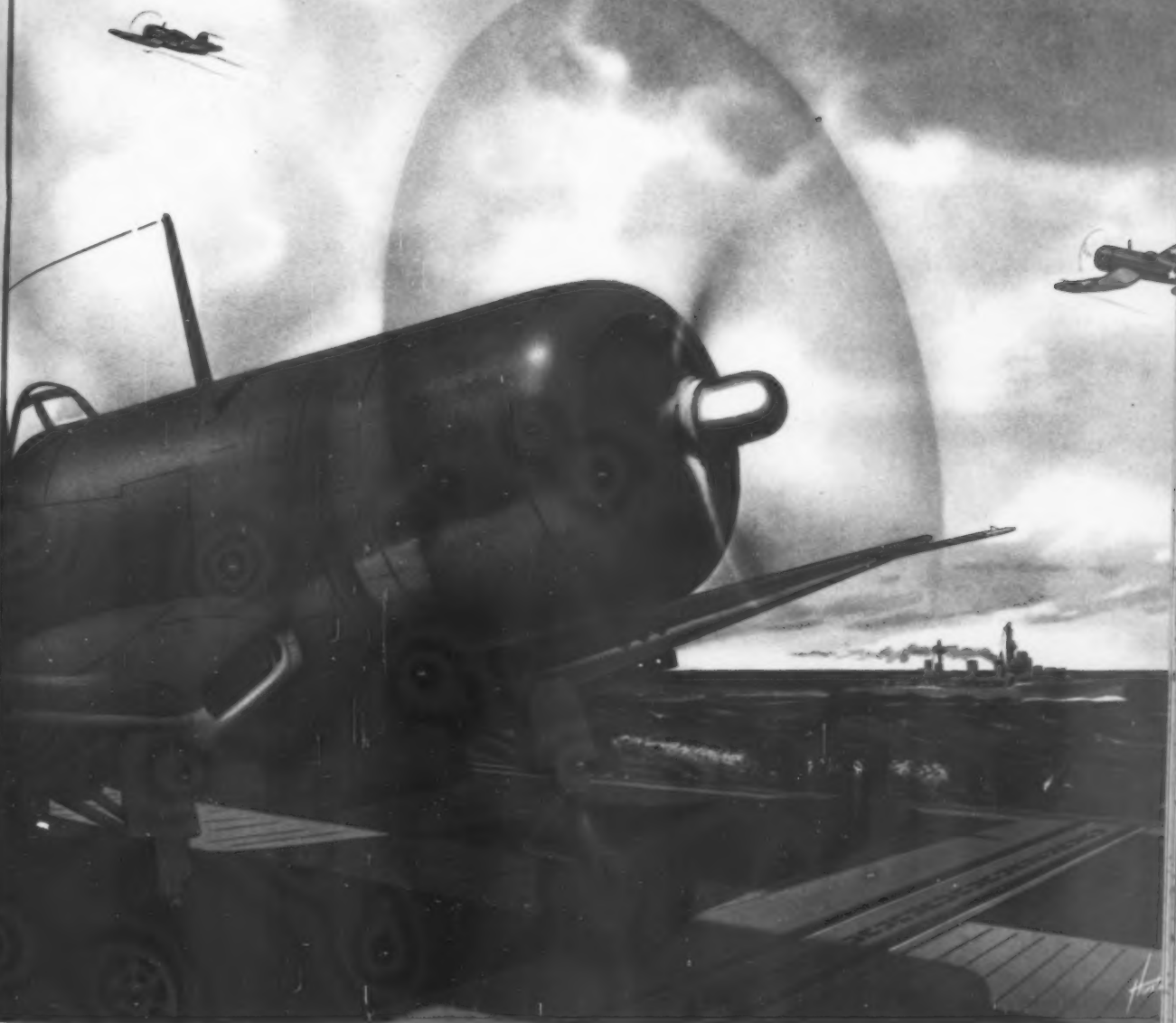
### Brazil Builds Big Base

When the new airbase presently underway on the outskirts of Fortaleza, Brazil is completed, it will make that city the largest air center in Latin America, according to Adm. John Ingram, U. S. Naval commander in the South Atlantic. Ingram said his belief was that the enemy submarines would soon be eliminated from Brazilian coasts by air and sea power developments.

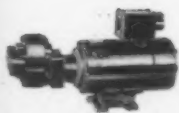




PERFORMANCE CONTROLS THE AIR



Vought Corsair



PESCO motor driven  
Hydraulic Pump for  
propeller feathering.



A carrier makes ready for its swift, surprise kill. From the first revolution of the plane's Hydromatic propellers everything depends upon precision, split-second performance. The craftsmanship of millions here at home is pitted against the foe. With lives and battles at stake, there cannot be a failure of a single part!

In Aircraft Hydraulics, Fuel Pumps,  
Air Pumps, Related Accessories...



PERFORMANCE POINTS TO **Pesco** FIRST

DIVISION BORG-WARNER, CLEVELAND, OHIO

**OPEN**  
**for Business!**  
*(WE DELIVER!)*



To our principal customers—the Axis—our doors are always open for business . . . every day, including Sundays and holidays. Offices are conveniently located in all principal jumping-off places of the world. Select merchandise available at all times.

**AIRCHOX COMPANY, Division of**



No priorities necessary on explosives and hot steel. Drop shipments promptly made on short notice. No order too small or too large. Rates very reasonable. Courteous representatives will call. Itinerary includes Japan, Germany and Italy. We deliver!

**General Offices, 8 So. Michigan Ave., Chicago**

**MAKERS OF THE WORLD'S FINEST PARACHUTE AND BELT HARDWARE**

# Aircraft Firms Study Other Fields for Postwar Output

## Research Under Way To Develop Uses For Surplus Facilities

By CLIFFORD GUEST

A DEFINITE trend among aircraft manufacturers toward a thorough investigation of other manufacturing fields and other products with which to supplement their postwar output of planes is reported by Dr. Glenn McLaughlin, chief of the industrial section of the National Resources Planning Board, who for several months has headed the NRPB study of postwar industry conversion possibilities.

Dr. McLaughlin told *American Aviation* that when the board's study was first started, aircraft industry executives showed a distinct aversion to the idea of entering any field other than airplane manufacture. In recent weeks, however, they have swung over strongly to the study of other manufacturing possibilities for the surplus plant facilities which otherwise may become idle with the end of war contracts, he said.

His statement is abetted by numerous reports from the aircraft industry and disclosures that most of the major companies have set up research departments devoted not only to study of possible partial plant conversion to consumer goods of various kinds but also to the necessary merchandising and marketing problems.

Dr. McLaughlin said that the NRPB has submitted copies of a tentative report on its study of postwar conversion for the

aircraft industry to about 15 major companies, inviting their comment. Supplemental reports are now being received from the aircraft firms and the original NRPB study is being revised to incorporate new information and new suggestions from the manufacturers.

In addition, NRPB has made separate studies on magnesium, aluminum and steel, much of which have direct bearing on the aircraft industry. While portions of the light metal studies are still classified as military secrets, other phases of the studies may be released in the near future.

Few, if any, of the aircraft companies have actually decided upon concrete plans for postwar manufacture. Unquestionably, a number of them will enter the lightplane field but only a small portion of the present facilities will be needed to supply the market.

It is generally estimated in the industry that no more than 10% of the present aircraft plant facilities will be needed to supply the demand for aircraft when hostilities cease. Some competent observers in the industry place the figure even lower than that.

The industry is acutely conscious of the situation which has been created with the concentration of thousands of workers in the aircraft centers and is anxious to avoid wholesale unemployment by throwing large parts of their plants into idleness after the war.

Boeing Aircraft Co. has advised its stockholders that a special research department has been set up to work out a projected postwar program, not only for the manufacture of cargo and transport ships but for other products as well to which part of its plant facilities can be converted. It also is negotiating for the purchase from the government of one of its large Seattle DPC plants.

Jack Sheehan, market research director

### Miami Escapade

Friends of Col. Eric Nelson, one of aviation's real pioneers, are joshing him about his recent escapade early one morning on Miami Beach. It seems that Col. Nelson was on a mission with an Army group and put up for the night at one of the AAF's leased hotels. Early in the morning he decided to take a dip (in the nude, which is often done in AAF-controlled areas), which was a good idea except that he didn't realize how closely guarded the beach was. A couple of sentries hauled the very nude Nelson to the guard house and with his Swedish accent he had some tall talking to do denying he had just swum in from a submarine.

for Lockheed Aircraft Corp., is authority for the statement that Lockheed already has investigated 140 different products for postwar manufacture. S. W. Voorhes, who has been Dayton-Washington representative for Lockheed, last week was named assistant to Robert E. Gross, Lockheed president, to coordinate postwar planning for Lockheed and Vega.

"There's no reason why we can't make a Lockheed washing machine, for example," Sheehan says. "After all, some of the best washing machine men in the business are now working for us, and a lot of them would like to stay here in California." But making a washing machine is one thing and selling it is another, he points out.

Airplane manufacturers have never had real sales organizations, such as General Motors or Westinghouse. Planes have been sold to airlines or governments, and dealer organizations have never been built up to work with the public.

Aircraft manufacturers converting to other products expect to find the merchandising problem much harder to work out than the problem of actual plant conversion.

The industry has information that one of the biggest West Coast aircraft plants has its blue prints all drawn for pro-

(Turn to page 28)



**Threats to Axis:** The Vought Corsair (left) and the Vega Ventura PV-1 are added threats to the enemy. The Corsair has been hailed by Admiral Chester W. Nimitz, commander of the U. S. Pacific Fleet, as superior to all models of the Jap Zero. The PV-1, a nautical version of the Ventura bomber, is designed especially for anti-submarine warfare. It carries either "ash can" depth charges or a standard torpedo.



# Big Increases in Postwar Air Travel Seen by Warner

## Says Trans-Atlantic Passengers May Reach 600 Daily

**T**HE possibility that 600 passengers will travel by air each day across the Atlantic Ocean in the postwar period, and that domestic air travel on transcontinental routes will be 120% of the total air-rail business between the same points in 1940, was advanced by Edward P. Warner, vice chairman of the Civil Aeronautics Board, on May 27.

Warner delivered the 31st Wilbur Wright Memorial Lecture before the Royal Aeronautical Society in London. His address is regarded as one of the most thorough analyses yet made of possible postwar air travel.

Warner, in his 92 - page lecture, asserted that:

A year-round average of eight round trips daily between the U. S. and Europe will



Warner

be reasonable.

Under certain conditions, the use of single-engined airplanes should be permitted in public air transportation.

Airline operating costs in the postwar period will be about 15% lower than pre-war.

It should be possible to transport passengers for 25c per passenger-mile and cargo for 14c per ton-mile.

Radio will be "scarcely a recognizable relation of its pre-war predecessor."

The accident rate in air transportation will drop to a long-term average of 1.0 fatality per 100,000,000 passenger-miles.

Cancellation of schedules will be decreased by half to two-thirds.

"I am concerned here with economics and engineering; and I shall say nothing of politics except to make a personal profession of faith, in which I hope you can all join," Warner told the Society. "My hopes for the future are rooted in the central hope that air navigation agreements will henceforth be drawn to the presumption that air transportation is a good thing; that the need of the whole world to share in its benefits should be a prime consideration in the planning of air routes; and that there shall be no return to those evil days when air transport was regarded with such caution and suspicion that it had to be administered in paltry and carefully-measured doses, with the authorization to operate internationally

being parsimoniously doled out, schedule by schedule."

Discussing trans-Atlantic air travel, Warner pointed out that in the 12 months ending June 30, 1938, a total of 291,000 passengers arrived in the U. S. from Europe by steamship, while 276,000 made the opposite journey. Of these, 74,000 and 55,000, respectively, were in the first and cabin classes.

"A substantial proportion of the tourists undoubtedly welcome the sea voyage for its own sake and will prefer to keep it as a part of their holiday," he stated. "The necessary length of the nonstop flight from easternmost North America to the British Isles imposes an economic burden which is likely to reflect itself in rates of fare considerably higher than those charged for covering the same distance in continental air transport."

### New Travel

"Nevertheless, I believe that it would not be too sanguine to anticipate that half of the maximum pre-war ocean travel in the first and cabin classes will be shifted to the air. Certainly the factor of newly-created travel will be an important one in this case; for just as statesmen and soldiers have learned in the past two years to run back and forth across the Atlantic when there is need of discussion, so in future businessmen of London or Birmingham having negotiations afoot in New York or Detroit will board a plane where once they would have sent a cablegram. It does not seem over-optimistic to anticipate that such newly-created travel over the Atlantic will equal twice the amount diverted from the previously existing channels."

"In considering trans-Atlantic traffic, on the other hand, we are reckoning with the interchange between populations of about 90,000,000 and 250,000,000, respectively—considering only the eastern third of North America and the western half of Europe as being major contributors to trans-Atlantic movement—with their centers of population separated by about 3700 miles."

### Warner Honored

Edward P. Warner, vice chairman of the Civil Aeronautics Board, has been elected an Honorary Fellow of the Royal Aeronautical Society. In its 76 years the Society has elected only 17 men as Honorary Fellows. Mr. Warner is the fifth American so honored, the others being Orville Wright; Dr. J. C. Hunsaker, chairman of the National Advisory Committee for Aeronautics; Maj. Lester D. Gardner, executive vice president of the Institute of the Aeronautical Sciences, and T. P. Wright, director of the Aircraft Resources Control Office, WPB.

### The Cost of Speed

"It appears," said CAB Vice Chairman Edward P. Warner in delivering the 31st Wilbur Wright Memorial Lecture in London, "that the charge that would have to be made for carrying a passenger over a 500 mile distance in two hours and seven minutes, to keep an airline self-supporting, would be more than twice as great as the charge for covering the same distance in three hours; and that the rate of fare for the three-hour journey would have to be increased by 30% for the first 33 minutes of time saved; a like amount for the next 12 minutes; and by as much more for the next six."

"Upon all these bases I believe it reasonable to anticipate a postwar average of 600 passengers by air per day in each direction between the U. S. and Canada and the British Isles and the Continent of Europe . . ."

London-New York schedules will take 15 hours, while in the opposite direction they will average 21 hours, Warner predicted. "Upon that basis I can look forward to departure from London at 4:00, 6:00, 8:00, 10:00 P.M. and midnight as offering as much frequency as anyone could reasonably desire. Allowing for flights that may start from points on the Continent, an all-inclusive year-around average of eight schedules each way each day between North America and Europe seems a reasonable goal."

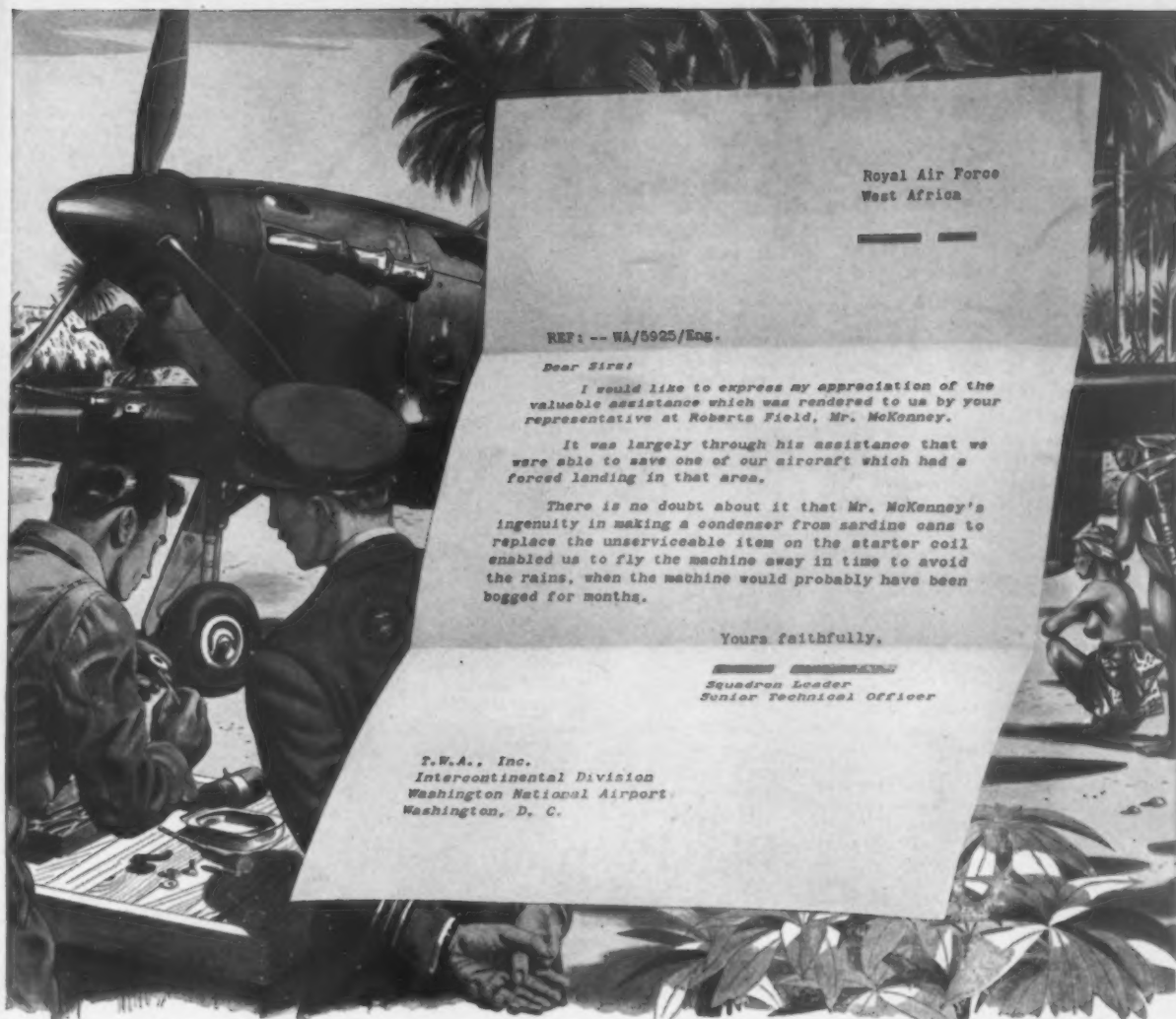
"It is a goal that may be attainable, if the total traffic reaches the figures that I have given as probable for the early postwar period. An average of 300 passengers per day in each direction, spread out among eight schedules per day, would put an average of 37 passengers on each airplane. Allowing for the 65% load factor which seems to be about the maximum . . . that would call for an aircraft providing accommodations for 57 passengers . . ."

It seems probable, he said, that two classes of service will be offered in the same plane, with materially lower fares available to those who are willing to contribute to a reduction of empty weight by accepting "comparatively Spartan" accommodations.

Turning to U. S. domestic air transportation, Warner asserted that "I see no reason why the airlines should not, within a very few years, be handling at least two-thirds of the total pre-war rail and air traffic over distances of 1000 miles or more and a quarter of the existing traffic on routes as short as 200 miles."

"Furthermore, there will be a substantial amount of additional passenger travel by those who will make long-distance trips that they cannot now spare the time to make at all; and over shorter distances a certain number of travelers who now prefer the private motorcar to the rails will be won back to the common carrier by the superior speed and comfort which the airline can offer . . . It does not seem

(Turn to page 30)



Royal Air Force  
West Africa

REF: -- WA/5925/Eng.


Dear Sirs:

I would like to express my appreciation of the valuable assistance which was rendered to us by your representative at Roberts Field, Mr. McKenney.

It was largely through his assistance that we were able to save one of our aircraft which had a forced landing in that area.

There is no doubt about it that Mr. McKenney's ingenuity in making a condenser from sardine cans to replace the unserviceable item on the starter coil enabled us to fly the machine away in time to avoid the rains, when the machine would probably have been bogged for months.

Yours faithfully,

  
Squadron Leader  
Senior Technical Officer

T.W.A., Inc.  
Intercontinental Division  
Washington National Airport  
Washington, D. C.



Charles McKenney, whose improvised condenser saved an R. A. F. warplane, has been with TWA 6 years. At the age of 28, he is an alert, competent artisan who typifies the resourcefulness and performance of the hundreds of TWA personnel located in far-flung outposts of the world. These men help to serve the logistic requirements of our armed forces through Army Air Transport Command projects assigned to TWA.

*TWA Services performed for the Armed Forces: Over-Ocean Air Transport Operations—Army Aircraft Mechanic, Radio Operator and Radio Mechanic Training—4-Engine Flight Crew Training—Military Aircraft Modification—Communications Engineering Projects—North American Air Cargo Service.*



# Ellinwood Outlines Adel's Plans for Shift to Postwar Products

## Will Make Aircraft Accessories, Also Consumer Goods

By PEGGY GUETTER

**E**XTENSIVE plans for a postwar program of manufacturing both aircraft accessories and a new line of consumer products were outlined last week in an interview with *American Aviation* by Ray Ellinwood, 34 year-old president of Adel Precision Products Corp., Burbank, Cal., in one of the first outright commitments to a postwar blueprint of any large company in the aircraft field.

Adel today has a valuation of more than \$5,000,000 in plant and inventory, and monthly production volume of \$2,000,000.

While reports on the West Coast indicate that Adel may shortly enter the helicopter field, particularly to fill orders for a foreign government now negotiating on plans for a twin-rotor plywood helicopter, Ellinwood made no explicit announcement on that subject. However, it is reported in industry circles that Harold Webb, vice president-engineering, is in charge of the wingless craft project which, if it materializes, will mark the first helicopter experimentation in the West. (Consolidated Vultee research on a postwar helicopter is being carried out by the Stout Laboratories in Detroit.)

To questions regarding his entrance in the helicopter field, Ellinwood said, "There has been too much talk and what we need is more performance on helicopter projects. Our current postwar program is set on lines upon which we can definitely produce results."

Relative to general plans, Ellinwood said:

"We have no crystal ball, but our postwar planning, which is being carried out by survey, independent of this company, clearly indicates a drop of at least 50% in aircraft dollar volume. Therefore, Adel is making definite plans to utilize its plants and personnel on a 50-50 basis between aircraft accessories and consumer goods production."

He revealed that automatic sprinklers, doors and windows, and household appliances of simple and practical design are in the category of contemplated consumer goods.

Dr. Lionel D. Edie, New York economic consultant, has been retained to direct the company's marketing research. Adel's own personnel and large engineering staff are entirely engaged in carrying out war assignments.

It is also anticipated that Adel will enter the amateur and motion picture camera manufacturing field. The know-how is already available. Ellinwood has

camera patents dating from his engineering days with Bell & Howell and Mitchell Camera Co. This was prior to his entrance into aircraft engineering with Douglas Aircraft Co. in 1933, which he left four years later to form his own company.

He started production of aircraft clips in 1937 and guided the company to the forefront in hydraulics, anti-icing equipment and line supports.

Currently, Adel is engaged in an expansion program which will increase its Burbank productive area by 98% at a cost of \$500,000 for land, building and equipment. Upon completion, the corporation will have seven plants engaged in aircraft war work, four in the Los Angeles area and three plants of Adel's subsidiary, Huntington Precision Products, located in West Virginia.

Production is further supplemented by over 100 manufacturers producing parts on a subcontract basis to Adel design specifications after original tooling by Adel engineers. The total sub-contract list includes over 1,200 firms.

Last November Transamerica Corp. acquired 96% control of Adel with Ellinwood directing the corporation's activities as president and general manager.

## Big Postwar Field Predicted For Lighter-than-Air Routes

**M**IDWAY between airplanes and steamships there is a skyway that's going to be well-traveled in the postwar future, declares Karl Fickes, one of the most vigorous proponents of "lighter-than-air." Fickes is manager of airship operations for Goodyear, the rubber corporation which is the western hemisphere's only airship-builder.

"For long-haul, over-water, large-tonnage carrying, the airship is destined to play a large part in postwar transportation," said Fickes when interviewed before taking part in a airship-submarine dramatization in the "Salute to Youth" radio show.

As a first and foremost reason for the airship's eventual dominance in its own portion of the sky, Fickes asserted that engine trouble "is a mere incident, not a major affliction" for a lighter-than-aircraft. The gas lifted vehicle can maintain altitude without maintaining high speed forward, so a clogged fuel line, for instance, merely results in tarrying a while aloft before continuing the trip, he said.

"There will always be railroads and steamships, and the airplane has amply proved its worth," said Fickes. "But what does not seem as widely appreciated is the fact that the airship can carry bigger loads. And for people who want a smooth, restful, quiet ride in spacious comfort, the

## Study Other Fields

(Continued from page 25)

duction of a popular-price automobile after the war. There will be no announcement of the details as long as war production is the first essential.

When Lockheed Aircraft Corp. last week purchased stock control in the large Pacific Finance Corp., financial papers immediately speculated that it was setting the stage to get into the automobile production field in the postwar era and that it would have facilities to finance automobile paper as well as plane sales in most of the western coast states.

Aircraft companies have especially looked into the possibilities of making refrigerators, auto bodies, washing machines, radios, stoves and metal furniture. One company is reported to be definitely interested in the pre-fabricated housing field.

The tremendous shifts in population which have accompanied the development of war industry will be a sizeable factor in marketing and merchandising, and in some respects pre-war patterns will be upset.

Currently, some specific ideas regarding the termination of war contracts and the methods of disposing of surplus plant facilities are being developed in Washington—although in the latter category there is little agreement so far as to what policy the government best might pursue in regard to the \$17,000,000 it has invested in war plants being operated for it by the manufacturers.

lighter-than-air ship offers the ultimate."

As to ready public acceptance, Fickes pointed out that the Graf Zeppelin and the Hindenburg had long waiting lists when they were in trans-oceanic service, even though they lacked the obvious advantages of non-inflammable helium, which is exclusively America's. When the objection was raised that there were no trans-oceanic airplanes in those days, Fickes agreed but answered that the future airship, with roomy decks and large cabins, will attract passengers who want faster transportation than surface ships afford and yet are interested in extra comfort.

Some authorities say that airship freight rates will be as low as one-tenth of the plane rates, but Fickes, with the occupational reluctance of an engineer to forecast in specific detail, said he would predict only lower rates at "a fraction" of the plane tariff.

"No matter how fast or magnificent or big the plane-makers build their heavier-than-air, they will not have all the desirable features of airships—not for many years," he said.

Fickes has spent half of his 41 years, and his entire post-Akron University life, working on airships and flying them. He builds an airship, then flies it to the specified Navy delivery point. The Navy gets every airship built these days, and impressive statistics are being built up by their offshore anti-submarine patrol.





# WHITING

C O R P O R A T I O N

## AVIATION DIVISION

Main Office and Plant: 15647 Lathrop Ave., Harvey, Ill.  
 Western Office: 6381 Hollywood Blvd., Los Angeles, Calif. Canadian Subsidiary: Whiting Corporation (Canada) Ltd., Toronto & Montreal. Branch Offices in New York, Chicago, Buffalo, Birmingham, Pittsburgh, Detroit, Cincinnati, St. Louis, and Washington, D. C.

# BREWSTER BLASTERS

*to CRACK the*

# AXIS

Concentrated blasts at the Axis,  
delivered with a sharpshooter's aim and  
a champion's timing—This is the mission  
of increasing squadrons of Brewster Buc-  
caneer and Bermuda dive bombers  
now serving in the air forces  
of the United Nations



BUCCANEER AND BERMUDA DIVE BOMBERS

NAVY F3A FIGHTERS

R  
D  
'A

Be  
have  
milit  
Office  
comp  
trans  
The  
with  
tion,  
ducti  
the  
other  
stress

1. 'is lar  
tions,  
throu  
The  
comm  
large  
bers  
natur

2. A  
being  
plane  
newer  
cargo  
origin  
is in  
at the

3. A  
airway  
accom  
transp  
civilian

4. D  
the A  
and c  
\$20,100

The  
claims  
air tra  
"Hig  
consider  
immen  
rent f  
unlikely  
forms  
some  
proph

The  
mate o  
Board  
two, al  
assume  
present  
6,000,000

In re  
of \$20,1  
dustry's  
with t  
which  
000,000

It re  
maximu  
ated co

A me

# OWI Predicts Half Million Airplanes in U. S. by 1950

## Report Summarizes Developments in 'Air Transport Era'

By WILLIAM THOMPSON

Before 1950, the United States may have 500,000 private, commercial, and military airplanes in active service, the Office of War Information predicts in a comprehensive report on American air transport released June 7.

The report, prepared in consultation with the Civil Aeronautics Administration, Civil Aeronautics Board, War Production Board, Air Transport Command, the Naval Air Transport Service, and other public and private organizations, stressed these facts:

1. The Air Transport Command alone is larger than all air transport organizations, civilian and military, in existence throughout the world before the war. The Naval Air Transport Service and the commercial air lines also are carrying large quantities of cargo and great numbers of personnel, chiefly of a military nature.

2. All air transport achievements are being made in passenger and bomber planes. Many of both the older and the newer models have been converted for cargo-carrying needs, but not one plane originally conceived solely to carry cargo is in service in the Western Hemisphere at the present time.

3. A vast, world-wide development of airways, communications, and airports is accompanying wartime expansion of air transport, which will be available for civilian needs after the war.

4. During 1943, the total production of the American aviation industry—cargo and combat planes together—will reach \$20,100,000,000.

The report warns against "extravagant claims on the subject of future peacetime air transport."

"High cost per ton-mile, not a prime consideration in military operations, and immense problems of refueling are deterrent factors," the report states. "It is unlikely that the airplane will drive other forms of transportation out of business, as some aviation enthusiasts are inclined to prophesy."

The report points, however, to the estimate of the National Resources Planning Board that "within the next decade or two, air travel in the United States will assume approximately 70 per cent of present-day Pullman rail travel, or about 6,000,000,000 revenue passenger-miles."

In reaching the total production figure of \$20,100,000,000 in 1943, the aviation industry's performance will be in contrast with that of the automobile industry, which at its peak in 1941 reached \$3,700,000,000, it continues.

It reveals that before Pearl Harbor a maximum of 434 planes was being operated commercially within and beyond the

continental limits of the United States by the air lines. They were divided as follows:

Domestic .....	358
Transoceanic .....	10
To Latin America .....	53
Hawaii .....	6
Alaska .....	7

By January 1, 1943, this number had been reduced to 256, of which 166 were flying domestic routes. The rest have been taken over by the armed services, either outright or to be operated for them by the air lines under contract, the report states.

Most of the 25,000 planes owned by private American fliers at the time of Pearl Harbor have been absorbed in the Civil Aeronautics Administration's War Training Service, have been purchased by the Army, or are being operated by their owners or by other civilian fliers in the Civil Air Patrol, now under Army control, it continues.

A factor bearing upon the future of American air transport is the number of persons who will be air-minded after the war, the report observes. It predicts that this number will be swelled by the 3,000,000 men who will be in the air forces by the end of this year as trained pilots, navigators, radiomen, airport engineers, and traffic controllers.

It sets up the following schedules of postwar flights, by shortest routes, between Washington and other cities of the world:

Mexico City .....	7 hrs.
Panama City .....	8 hrs.
Seattle .....	8 or 9 hrs.
Paris or London .....	10 or 11 hrs.
Moscow, Rio de Janeiro, or Istanbul .....	16 hrs.
Cairo or Buenos Aires .....	18 hrs.
Tokio .....	22 hrs.
Shanghai or New Delhi .....	24 hrs.
Chungking or Cape of Good Hope .....	26 hrs.

The report lists the following expectations concerning types of carriers:

**Land Planes**—By 1945 transport planes in the 100,000 to 120,000 pound class will be flying in quantity. On trips the length of New York to Chicago, such planes would carry 15 tons at 250 miles per hour. Both two-engine and four-or-more-engine types will continue to be built—the former for economy; the latter for longer and transoceanic work.

**Flying Boats**—Varying opinions exist even within the Navy itself, where most of those already built are in service. Due to their present slow speed and difficulty in handling, there is wide objection to their use. But improved handling devices, already designed, would aid greatly in moving flying boats more expeditiously from water to land for docking purposes, and speed increase would be facilitated by the construction of sheltered, canal-like water runways, which would enable flying boats to rid themselves of some of the heavy equipment now carried for landings in rough water. At certain locations, where it is impossible to build land runways of the great length required by

## Engineer Predicts New Landing Gear

Developments, now being planned, of airplanes that will dwarf present craft in size and weight must also be accompanied by many radical changes in construction, asserts Alec E. Ulmann, president of the Dowty Equipment Corp. of Long Island City and Sunnyside, N. Y. Some of the conventional parts of planes now being used will have to be entirely discarded, Mr. Ulmann predicted, as planes attain greater proportions.

"In the landing gear, particularly, there will be radical changes," the engineer said in discussing innovations in appearance as well as in operation of "next season's" planes.

"The conventional wheels will undoubtedly be discarded for some new type of landing gear, and engineering laboratories that devote themselves to problems of aircraft landing must work on some substitute for the present heavy wheels."

"On a plane of one hundred thousand tons weight the wheels would represent a sizeable portion of the whole craft," Mr. Ulmann explained. "If we can eliminate the huge wheels and substitute some lighter equipment, we will then be able to carry more payload a greater distance."

some models of land planes, flying boats landing on water may offer a solution to transportation problems.

**Gliders**—Although advantageous in special cases and particularly in military use, the use of gliders is less important over long ranges in cargo carrying on large scale. They are useful when an airplane wishes to drop a load without landing, and they can be picked up by planes in flight.

**Rotating Wing Aircraft**—These are generally considered one of the coming types of craft for the postwar private use market.

**Lighter-than-air Craft**—No production of these in this country at the present time. According to their record, their ton-mile capacity per pound of critical material used is not impressive, although their long-range ability must still be considered of interest in special cases.

The report sums up a chapter on airways and navigation facilities as follows:

**Airways**—"Today, practically every flight by a transport plane is as controlled as the run of a railroad train. Rights-of-way (the airways) are marked by radio beams and visual aids; there is two-way radio communication with airports and control centers along the airways; at any time the pilot can 'ask for the weather' from any radio station along the airway; radio range markers, operating by remote control and serving the airports as well as the airways, are constantly sending out the directional beams by which the pilot keeps himself on his course."

**Airports**—There will be 865 major airports in the United States by the end of 1943, all of them with paved runways of 3,500 feet or more, capable of handling the largest craft now flying, the report continues.

**Pilots**—The number of licensed pilots in the country at the end of 1941, the last date for which figures are available, was 100,787, the report adds. The number of pilots today is a military secret.



# Warner Predicts Traffic Increases

(Continued from page 26)

unreasonable to anticipate that passenger traffic by air over transcontinental distances will be as much as 120% of the total of the air and rail traffic between the same points in 1940; while over 200 mile distances a corresponding ratio might be about 50%.

"In round numbers, that would promise five times the present traffic between points already having connections by air."

## 80 Departures

On the hypothesis that a 20 passenger aircraft will be the smallest which can be operated with enough economy to compete with highly efficient surface transport, "there would appear likely to be a postwar need for about 80 departures of aircraft of that size from New York between 5:30 and 6:30 each afternoon, flying to about 40 different cities as first points of call. With 40 passenger aircraft only about half as many departures would be needed. The problem of airport capacity would be relaxed; but about 25 of the 40 cities which could reasonably expect to have the advantages of non-stop connection with New York by the smaller aircraft would be likely to lose it with the larger. If on the other hand a mixture of 10 passenger, 20 passenger and 40 passenger aircraft could be used, one may foresee a justification for about 15 departures of the largest type, 50 of the middle size and 50 of the smallest, within the busiest hour of the day."

Discussing operating costs, Warner predicted that changes in design, etc., will produce an aggregate saving of 15% in operating costs, assuming general price levels equal to those before the war.

On the cost of air cargo, he stated that "the minimum costs actually realizable in the present state of the art, with an aircraft carrying a payload of 12,000 lbs., is about 20c per ton-mile for the moving of loads composed in major part of passengers . . . In substituting goods for passengers it is typically possible to increase the payload by about a third, or even more if the airplane be initially designed exclusively for service with goods and the weight of windows be eliminated.

## Eliminate Costs

"The items of cost that could be eliminated if no passengers were carried and no commercial traffic of any kind had to be solicited amount at present to about 7.5c per payload ton-mile. Upon the assumption that one-third of that amount would suffice to cover the cost solicitation of freight traffic and the cost of loading freight and securing it in the airplane and handling it at the airports, the substitution of freight for passengers would allow a direct saving in cost of 5.0c per ton-mile. Superposing that saving on the reduction of unit cost due to the increase in the amount of payload carried, it appears that minimum operating costs per ton-mile can be reduced from the 18c that seem to represent the present limit with loads composed primarily of pas-

sengers to about 10c in the case of un-mixed freight.

"Of course the costs thus arrived at do not represent the possible levels of commercial charge. Although both British and American airlines are at present filling 90% of their available space, or better, they are doing it only through the machinery of priority systems, and with uncertainty and inconvenience to passengers and shippers which would seem unendurable in peace.

"The general experience, supported by a certain amount of mathematical analysis, seems to be that the maximum load factor that can be maintained without serious detriment to the value of the service to the public is from 65 to 70%. The practically attainable load factor with cargo probably will not be very different from that with passengers, unless some sort of a deferred service is introduced at rates substantially below the regular level to secure filler cargo. Either with passengers or with freight, then, the cost per ton-mile of service actually rendered may be expected to exceed the cost based on payload-capacity ton-miles by about 50%.

## 10% Profit

"There is also the matter of profit, which may be expected normally to amount to about 10% of the operating expenses. The figures that I have previously discussed therefore build up to minimum practicable commercial rates on routes permitting frequent refueling of about 3.0c per passenger-mile and 16c per ton-mile for air freight, with an additional charge in the latter instance if the cost of picking the package up from the shipper and delivering it directly to the final consignee is to be included. If a cruising speed of 250 mph at 10,000 ft. were to be insisted on, and the wing loading to be limited to 40 lb. per sq. ft. the passenger rate would have to rise to about 4.0c per passenger-mile.

"If I apply to those figures my previously developed hope of a reduction of 15% in cost in the postwar period, beyond the best that can be done by merely choosing the best dimensions and design ratios for maximum economy in the present state of the art, I arrive at a possible postwar level of 2.5c per passenger-mile for passengers and 14c per ton-mile for goods . . .

## Big Cargo Volume

"If the transportation of goods from airport to airport, exclusive of collection and delivery services, can actually be offered after the war at rates approximating 14 to 16c per ton-mile in the U. S. . . . I believe that the movement of goods, instead of being a minute fraction of the volume of passenger traffic, will become a very large element in air transport operation."

On postwar speeds, Warner pointed out that as speed increases, costs increase, and higher fares are necessary. There

are very few passengers willing to pay at the rate of more than \$10 per hour for saving of time, he added.

Cruising speed at 10,000 feet could be pushed up to 235 mph for a 40 passenger plane before reaching the point where additional increments of speed would increase the cost to the passenger at a rate of more than \$10 per hour saved, he added. For a 20 passenger plane the figure would be 215 mph and for a 100 passenger ship 255 mph.

## Supercharging

On the effect of altitude, he stated: "It would appear that if a high degree of economy is desired in a transport operation, supercharging will be used only when weather conditions along the route are such that high altitude operations will contribute notably to safety and regularity of service. If on the other hand it is not a primary objective to keep costs close to the lowest possible level, the operating advantages and the luxury of supercharging can be secured at a total expense of cost per payload ton-mile of 10 to 15% in the range of most probable operating speed. In the still more extreme case of determination to attain very high speed at almost any cost, high-altitude operation is a part of the specification for keeping the expense of the speed to a minimum."

Postwar radio, Warner predicted, "will be scarcely a recognizable relation of its pre-war predecessor. The experience gained in dispatching and coordinating the movements of anything up to 1000 bombers in a night, too, will make itself felt in the technique of transport operations after the war."

## Single-Engine Planes

Surprising in Warner's address was his suggestion that "as a possible regulatory form . . . the use of single-engine machines in public transport should be allowed on condition that their gross weight does not exceed 10,000 lbs.; that the stalling speed is not over 55 mph; the demonstrated distance to complete a landing from a 50 ft. altitude not over 1500 ft.; and that they are not to be so operated as to lose visual contact with the ground for any appreciable period, or on routes which will at any time carry them more than 10 miles from a field safely usable for an emergency landing . . .

The accident rate in air transportation can reasonably be expected to drop to a long-term average of no more than 1.0 fatality per 100,000,000 passenger-miles, he said. On regularity of service, he stated: "The aggregate promise for the immediate postwar period is for a reduction of between half and two-thirds in the present number of failures of service. It does not seem too much to expect that under the operating conditions of the continental U. S., the British Isles or Western Europe the regularity of performance will rise to some 91 to 97% in winter and well over 99% in summer."



# *Marauders* **ON THE RAMPAGE**

Consternation reigns in Axis ranks when Army B-26 bombers loom up. These versatile Martin Marauders can carry bombs, torpedoes or depth charges, plus the fire power to strafe or battle as fighters, plane to plane. Their mighty Double Wasp engines pack 2000 horsepower each, to help make them the scourge of the skies.

**PRATT & WHITNEY AIRCRAFT**

EAST HARTFORD, CONNECTICUT

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

# Legislative Summary

(Compiled by American Aviation)

The first session of the 78th Congress since its opening on Jan. 6 can be credited with two major actions strictly on aviation, namely the defeat of the Nichols resolution to establish a standing committee on civil and commercial aviation in the House and the introduction and consideration of the comprehensive Lea bill, laying a legislative groundwork for postwar commercial aviation.

These two actions amount to a decision on the House side to delegate to the executive departments of the government the task of leadership in the formation of the nation's postwar commercial aviation policies. The attempt of Republican leader Joe Martin and a handful of Democrats to take over the reins failed with the defeat of the Nichols resolution. This situation creates the present outlook of a Congress that will be in the main a "watchdog" over the work of the CAB and the Interdepartmental Committee on Aviation. Enactment of the Lea bill will explicitly delegate to the executive departments postwar aviation planning.

Not to be overlooked are the many other steps, however, the Congress has

taken—for example, in the way of appropriations to civil and military aviation—which are building a U. S. air power inconceivable without government sponsorship. The 1944 Naval Appropriation will provide for the construction of 27,642 additional airplanes, a vast number of air bases and aviation land facilities. The 1944 War Dept. Appropriation, still under consideration in committee, contemplates an Air Forces allocation even greater than last year—\$23,655,481,000. The present Congress has done everything in its power to boost the aviation branches of the military services and has taken steps to retain the identity of civil aviation during a war period.

On the other hand, innumerable bills, designed to promote aviation, particularly civil aviation, are destined to remain in committee files for the duration of the Congress. Likewise, bills envisaging thorough-going reorganizations of the military services to place greater emphasis on the air arms, have little chance of consideration.

Following is a summary, indicating the status of aviation legislation in Congress:

## New Public Laws

P. L. 7—(H. R. 1912 and S. 739) reverses a former limitation of 2% in the number of Army personnel including AAF men who may be detailed to educational institutions and industrial plants for technical training.

P. L. 11—(H. R. 1975), First Deficiency Appropriation, provides \$5,494,000 for NACA; \$10,000,000 for training of defense workers; \$40,000,000 for liquidation of contracts for access roads to defense plants; \$65,000 for aeronautical charts; \$33,797 for domestic airmail (1940); \$343,299 for domestic airmail (1942); \$12,300 for Labor Dept. study of aircraft plant utilization.

P. L. 19—(H. R. 1692), authorizes \$223,000,000 for expansion of Naval aviation facilities.

P. L. 20—(H. R. 2068), Navy Supplemental Appropriation, makes \$562,000,000 in 1942 fiscal year aviation funds available for obligation through 1943 fiscal year and 1943 fiscal year appropriations through 1944 fiscal year.

P. L. 50—(H. J. Res. 115), Urgent Deficiency Appropriation, provides \$3,500,000 for compensating CAA's non-combatant trainees \$50 a month, retroactive to Dec. 15, 1942.

P. L. 61—(H. R. 2581), authorizes the Navy to procure 1,000,000 additional tons of small craft, including aircraft rescue boats, plane personnel boats, aircraft fuel boats, etc.

## Bills Passed by House and Senate

H. R. 1648—Post Office Appropriation, providing \$4,500,000 for foreign mail; \$22,000,000 for domestic mail. Passed House Feb. 9; passed Senate Mar. 25.

H. R. 1563—Magnuson (D., Wash.), authorizes the Navy to construct 1,000,000 additional tons of auxiliary vessels, including auxiliary aircraft carriers. Passed House Apr. 21; passed Senate May 20.

H. R. 1670—Lea (D., Cal.), makes funds appropriated for civilian pilot training available for expenditure on War Training Service, authorizes CAA to train men on active military status.

H. R. 1762—Independent Offices Appropriation, 1944, provides \$19,454,500 for NACA. Passed House Feb. 17; passed Senate May 27.

## Bills Defeated

H. Res. 23—Nichols resolution, establishing a standing committee on civil and commercial aviation in the House. Defeated Mar. 2.

## Committee Authorization Approved

H. Res. 30 and 31—Vinson (D., Ga.), authorizes the Naval and Military Affairs Committees to continue investigations of the war program.

H. Res. 33—Nichols (D., Okla.), authorizes the Select Committee to Investigate Air Accidents to continue to Mar. 1.

S. Res. 6—Truman (D., Mo.), continues the Senate Committee to Investigate the National Defense Program.

S. Res. 33—Kilgore (D., W. Va.), authorizes a subcommittee of the Military Affairs Committee to continue investigations of scientific and technological mobilization.

S. Res. 60—Clark (D., Mo.), continues Senate Air Safety Committee.

## Bills Passed by House

H. R. 2397—Commerce Dept. Appropriation, 1944, provides \$27,210,000 for CAA; \$1,162,000 for CAB. Passed House Apr. 20.

H. R. 2481—Agriculture Dept. Appropriation, 1944, provides \$800,000 for forest products investigations dealing with aircraft woods. Passed House Apr. 20.

H. R. 2713—Navy Dept. Appropriation, 1944, allocates \$4,583,725,000 cash and \$2,000,000,000 contract Authority to the Bureau of Aeronautics. Passed House May 20.

H. J. Res. 106—Lea (D., Cal.), commemorates the 25th anniversary of inauguration of the airmail service. Passed House May 17.

## Bills Passed by Senate

S. Res. 102—George (D., Ga.), creates a Senatorial committee on postwar planning. Passed Feb. 26.

(Turn to page 35)

## Peak of 2,300,000 Aircraft Labor Is Forecast by ARCO

A forecast that the aircraft industry will require an overall employment of 2,300,000 workers by April, 1944, was made last fortnight by T. P. Wright, director of the Aircraft Resources Control Office, in testimony before the Senate Military Affairs Committee on the National Service Bill.

To reach the peak of employment which is now foreseen on the basis of projected schedules, 700,000 workers must be added in the coming months, Wright said. From ARCO studies, it is concluded that 70% of the work required in aircraft manufacture can be done by women, he said.

Wright indicated that he expected to see the next 12 months bring an end to aircraft plant expansion.

He endorsed the principle of National Service, as embraced in the Austin bill, but said he felt that enactment of the bill itself would bring tremendous administrative difficulties.

Praising the aircraft industry, he said as a whole it has increased by 40% in the past year its per-person-pounds of production and there are indications it will do even better. Dr. A. E. Lombard, assistant to Wright, submitted charts on aircraft employment to supplement Wright's testimony to the committee.

Ray Walsh, senior vice president of United Aircraft Corp., made a plea to the Committee for some means of saving the highly skilled engineering personnel of the aircraft industry, particularly those engaged in advance engine design.

## Measure to Keep WTS Under CAA Advanced

Legislation aiming to keep controls of War Training Service with the Civil Aeronautics Administration, was passed by the Senate during the fortnight.

The bill, by authorizing CAA to train men on active military status, will make it possible for Congress to appropriate funds for WTS to CAA, instead of to the military services, as planned by the Bureau of the Budget. This would keep "pocketbook" control with CAA.

The legislation now awaits House concurrence on a clarifying Senate amendment before being sent to the White House for signature.

Sen. Pat McCarran (D., Nev.) explained to the Senate: "The Army and the Navy have now placed the training of all military trainees under the direction and supervision of the CAA. The Comptroller General has held that the word 'civilian' in the act under which civilian pilot training (now WTS) is now being conducted by the Army required that when trainees are in the military or naval service the appropriation must come through the Army or the Navy, and not through the CAA. The bill is to correct that situation so that the appropriation may come through the Commerce Dept., thus to be handled by the CAA, so as to enable it to train enlisted enrollees. We seek to have the word 'civilian' stricken so that the act may cover not only civilian, but military enrollees as well."





**ANSWERING THE  
NEED FOR...**



## Trained Air Men!

**I**N a war demanding overwhelming air supremacy, the need is for men better trained than any the enemy can send into the sky.

The United Nations have an answer to that need in the immense British Commonwealth Air Training Plan centered in Canada.

To this great undertaking Canadian Pacific Air Lines is making a direct and constant contribution. The company operates, on a non-profit basis, six Air Observer Schools and a steady stream of British Commonwealth airmen is advancing daily through these navigation schools to emerge full-fledged flyers.

Another major war task of the company is the management and operation of five Aircraft and Engine Overhaul Plants under contract to the Department of Munitions and Supply for the servicing and repair of Royal Canadian Air Force equipment.

Back in 1940 the Canadian Pacific made another vital contribution to the United Nations war air effort by pioneering the Atlantic ferry bomber service, now the R.A.F. Ferry Command.

Thus does Canadian Pacific Air Lines serve the war needs of today. Tomorrow, when victory is won, the system will be ready to meet the transportation needs of a new, air-minded generation.

**Canadian Pacific**  
**AIR LINES**

The Wings of the World's Greatest Travel System

**Repair Plants Keep 'em flying, too!**



# Quick Connectors



## Newest Design Electrical Connectors Conform to Latest A-N Specifications

A dependable means of connecting and disconnecting many electrical circuits at once is vital to the operation and maintenance of America's warplanes, tanks, and PT boats on fighting fronts the world over. The newest type Breeze Electrical Connectors, carrying from 1 to 47 contacts, make it possible to make or break multiple circuits simultaneously, quickly and with safety. Connections are secured against vibration by threaded coupling and pin and socket construction. Produced in a wide range of types and sizes, Breeze Connectors are designed to meet practically every need in modern electrical control and communications systems. Fully shielded against radio interference, these units conform to the latest A-N specifications, and are engineered to meet the highest standards of design and manufacture.

**BREEZE CORPORATIONS, INC., NEWARK, N. J.**

*Breeze*



Bank  
H.  
Educ  
H.  
Office  
Expen  
H.  
co-eq  
H. R.  
the W  
H. R.  
Foreign  
H. J.  
22 bip  
positio  
Intersta  
H. R.  
governm  
H. R.  
H. R.  
H. R.  
H. R.  
engaged  
H. R.  
members  
H. R. 2  
for train  
tection p  
H. R. 2  
the need  
Judiciary  
H. R. 1  
of race, co  
Library Co  
H. J. Re  
portion of  
Military A  
H. R. 723  
Medal of I  
H. R. 174  
H. R. 223  
H. R. 226  
Chiefs of S  
Naval Affa  
H. R. 17  
bombardiers  
H. R. 223  
receiving W  
of payment  
H. J. Res  
Naval Acad  
Patents Com  
H. R. 2100  
Post Offices  
H. R. 1720  
Rules Comm  
H. Res. 10  
in the House  
H. Res. 3  
Migration.  
H. Res. 5  
office memb  
H. Res. 13  
H. Res. 14  
vestigation  
Ways and M  
H. R. 892-

## Legislative Summary

(Continued from page 32)

S. Con. Res. 7—Barkley (D., Ky.), commemorates the President's trip to Africa as demonstration of his faith in air transport. Passed Senate Mar. 1.

### Bills Before the House

H. R. 1012—Lea (D., Cal.), contemplated as the "Civil Aeronautics Act of 1943." Reported out of Interstate and Foreign Commerce, Feb. 11.

H. R. 1876—Johnson (D., Tex.), "work or fight" bill, requires draft boards to give consideration to absentee data in granting occupational deferments. Reported out of Naval Affairs Mar. 22.

H. R. 2553—Norton (D., N. J.), directs the Secretary of Labor to make investigations and recommendations on the causes of absenteeism in aircraft and other war plants. Reported out of Labor May 4.

H. R. 2795—O'Leary (D., N. Y.), sets up a joint Congressional committee to study problems relating to the postwar disposition of surplus aircraft and other war materials, including plant facilities. Reported out May 27.

### Bills Before the Senate

S. 1106—Johnson (D., Colo.), suspends for the duration lump-sum payments of \$500 a year to reserve Army flyers for active service. Reported out May 27.

H. R. 1900—Vinson (D., Ga.), brings war contract brokers under the renegotiation status. Passed House Apr. 20. Reported out of Senate Naval Affairs May 20.

### Bills Pending Before House Committees

#### Banking and Currency:

H. R. 1611—Steagall (D., Ala.), authorizes the RFC to increase indebtedness by \$5,000,000,000.

#### Education Committee:

H. R. 700—Randolph (D., W. Va.), establishes a division of aviation education in the U. S. Office of Education, FSA.

#### Expenditures in Executive Departments:

H. R. 92—O'Brien (D., Mich.), establishes a Division of Air Warfare, Army and Navy as co-equal divisions under a Department of National Defense.

H. R. 708—Randolph (D., W. Va.), establishes a Department of Defense and consolidates therein the War and Navy Departments.

H. R. 1246—Randolph (D., W. Va.), establishes a Department of Air Defense.

#### Foreign Affairs Committee:

H. J. Res. 28—Mundt (R., S. Dak.), creates a postwar planning commission, consisting of 32 bipartisan members to examine, study and make recommendations relating to the postwar position of the U. S. in world affairs, to peace objectives and its domestic postwar problems.

#### Interstate and Foreign Commerce Committee:

H. R. 61—Hinshaw (R., Cal.), provides that CAA shall be an independent establishment of the government.

H. R. 135—Cole (R., N. Y.), establishes a Civilian Glider Pilot Training Division in CAA.

H. R. 831—Costello (D., Cal.), provides for the training of civil glider pilots.

H. R. 1115—Nichols (D., Okla.), provides for federalization of U. S. air space.

H. R. 1992—Lea (D., Cal.), authorizes the government to provide insurance for air carriers engaged in national defense work and re-insurance for all air transport.

H. R. 2024—Rivers (D., S. C.), provides compensation for dependents of certain deceased members of CAP.

H. R. 2204—Rankin (D., Miss.), provides that members of the military or naval forces selected for training as civil aircraft pilots shall receive the base pay, allowances and insurance protection provided for military or naval aviation cadets.

H. R. 2661—Randolph (D., W. Va.), directs the Administrator of CAA to make a survey of the need for a system of airports throughout the U. S.

#### Judiciary Committee:

H. R. 1729—Marcantonio (ALP, N. Y.), makes guarantees against discrimination because of race, color or creed among employees on defense contracts.

#### Library Committee:

H. J. Res. 19—Jenkins (R., Ohio), provides for the utilization of a part of the unfinished portion of the historical frieze in the rotunda of the Capitol to portray the story of aviation.

#### Military Affairs Committee:

H. R. 725—Green (D., Fla.), authorizes the President to award posthumously a Congressional Medal of Honor to Colin P. Kelly.

H. R. 1742—Wadsworth (D., N. Y.), provides for "drafting" of labor.

H. R. 2239—Smith (D., Va.), prevents unionization of foremen in war plants.

H. R. 2367—Maas (R., Minn.), places war production procurement in the hands of the Joint Chiefs of Staff.

#### Naval Affairs Committee:

H. R. 1745—Walter (D., Pa.), authorizes suitable insignia to qualified aerial gunners or bombardiers of the Navy.

H. R. 2293—Sasser (D., Md.), extends to members of the enlisted reserve of the Navy while receiving WTS training, the benefits of veterans' laws and regulations regarding the granting of payment of compensation or pension for disability or death.

H. J. Res. 2—Fish (R., N. Y.), provides for aviation training of midshipmen of the U. S. Naval Academy.

#### Patents Committee:

H. R. 2100—Patman (D., Tex.), establishes an Office of Scientific and Technological Mobilization.

#### Post Offices and Post Roads Committee:

H. R. 1720—Boren (D., Okla.), eliminates the surcharge on airmail.

#### Rules Committee:

H. Res. 10—Fish (R., N. Y.), establishes a standing committee on civil and commercial aviation in the House. (Also, H. Res. 11, 15, 17, 24, 38 and 59).

H. Res. 36—Tolan (D., Cal.), continues Special Committee to Investigate National Defense Migration.

H. Res. 54—Vinson (D., Ga.), makes chairman and ranking members of Naval Affairs ex officio members of Military Affairs and vice versa.

H. Res. 130—Rankin (D., Miss.), requests Capt. Eddie Rickenbacker to address Congress.

H. Res. 143—Norton (D., N. J.), authorizes the Labor Committee to make a complete investigation of labor conditions affecting the war program.

#### Ways and Means Committee:

H. R. 892—Wene (D., N. J.), provides for the construction and operations of a system of

(Turn to page 36)

## Dropping of Lump Sum Pay To AAF Reserves Proposed

Suspension of lump-sum payments of \$500 a year to Army Air Corps Reserve officers for active service is provided in legislation recently reported out of Senate Military Affairs Committee.

Under existing law, an Air Corps Reserve officer who has not been selected for commission in the Regular Army is entitled to receive a lump-sum payment, in the amount of \$500 for each complete year of active service, upon release from active duty that has been continuous for one or more years.

The reasons given by the Military Affairs Committee on proposing the suspension were: (1) that such monetary inducements, necessary in peacetime to stimulate aviation procurement and compensate young men for foregoing the opportunity to enter lucrative business pursuits while performing active duty with the AAF, are not necessary in wartime; (2) such lump-sum payments to Air Corps Reservists for active duty would be a discrimination against regular AAF flyers who do not receive the added remuneration.

## Independent Offices Bill Carries Funds for NACA

The 1944 Independent Offices Appropriation bill carrying an allocation of \$19,454,500 for National Advisory Committee for Aeronautics, was passed by the Senate during the fortnight and now awaits House concurrence on Senate amendments.

The Senate added an allocation of \$200,000 for the President's National Resources Planning Board to the legislation. The House has twice knocked out appropriations for NRPB recommended by its Appropriations Committee and it appears that present Senate action is a last desperate attempt to keep the Board alive.

An allocation of \$350,000 for the Board of Investigation and Research—Transportation, was added by the Senate. This Board, created under the Transportation Act of 1940, was directed to investigate "surface transportation," but in making this study it has been held essential to include air transport, as it will affect surface transportation. The Board is headed by Nelson Lee Smith.

## NACA Engine Laboratory Offers Unique Features

The new \$20,000,000 aircraft engine research laboratory of the National Advisory Committee for Aeronautics, recently dedicated at Cleveland, O., has several unique features. The refrigeration plant has a capacity twice as large as that of the largest refrigeration plant in the world. The engine research tunnel has a total motor horsepower of 58,772, the greatest power load of any wind tunnel built to date. Wind tunnel air temperatures may be maintained as low as 67 degrees below zero, simulating stratosphere conditions at 50,000 feet.



## May Score: 351

During May American bombers based on Britain destroyed 351 enemy planes and dropped 70% more bombs in their nine raids than in any previous month, it is reported from London. This brings to 768 the total which American planes have shot down since January 1.

## Senate Group Studies Air Forces Accidents

Army training crash records, which to date have been revealed only to members of the Senate's Truman Committee, have been requested for study by a Senate Military Affairs subcommittee composed of Senators O'Mahoney (D., Wyo.), Hill (D., Ala.), and Gurney (R., S. Dak.), Chairman Reynolds (D., N. C.) has disclosed.

Reynolds said that the subcommittee launched its air crash study after receiving a "fantastic" report that 31% of the flying personnel at Avon Field, Fla., were crash casualties between March 5 and April 16. Army Air Forces officers, he added, however, have denied this report which was contained in a letter from an unidentified writer.

Credit for contributing to the war effort by awakening Congressional interest in Army training crashes was extended to Joseph Lieb by Sen. Styles Bridges (R., N. H.), second-ranking minority member of the Senate Military Affairs Committee, in a recent Senate message.

Bridges seconded Rep. James Morrison's (D., La.) recent claim that Army records are "sensational."

On Lieb's work, Bridges related:

"On Feb. 3, 1943, Lieb appeared before the Senate Military Affairs Committee requesting an investigation of Army plane crashes. Five weeks later the Army Air Corps Mar. 23, 1943) announced that it was creating a Flying Safety Bureau. Lieb, still not satisfied, again appeared before the Senate Military Affairs Committee demanding a thorough investigation. As a result, Gen. Arnold, Chief of the Air Corps and other War Dept. officials were called upon to testify. Then Lieb took the matter up with members of the Truman Committee. They started to investigate. Lieb furnished startling information relative to the alarming number of accidents. Today in the hands of the Truman Committee rests the most sensational scandal of this war, greater and more ominous than the Carnegie steel fraud, more treacherous than the Anacosta wire indictment. Thousands of lives may be saved because of Lieb's investigation and untold millions of dollars may be saved in equipment."

## Army-Navy Bulletins

**CONSTRUCTION:** War Dept. has announced these awards and authorizations: Contract for facilities of AAF installation in Oneida County, Fla.; authorization for additional construction at AAF installation in Jefferson County, Ky.; authorization for facilities at AAF installation in Dallas County, Texas, and authorization for additional runway, taxiway and apron

## Legislative Summary

(Continued from page 35)

military super-highways and airports for national defense in time of war or insurrection and for government and commercial use by automobiles and airplanes in time of peace.

H. R. 1896—Lynch (D., N. Y.), contemplated as the "First Postwar Planning Act of 1943," provides for the preparation now of surveys and plans for public works and improvements which will provide employment opportunities and demands for industrial products upon demobilization. Companion introduced by Sen. Mead (D., N. Y.).

H. R. 2324—Doughton (D., N. C.), requires contractors and subcontractors under government defense contracts to file annual financial statements for each expired year subsequent to Dec. 31, 1940 and subjects such contractors to renegotiation if their aggregate sales exceed \$500,000 for each fiscal year; provides penalties for wilful refusal to file such statement.

H. J. Res. 36—Voorhis (D., Cal.), establishes a National Commission for Postwar Reconstruction, composed of 5 Senators and 5 Representatives and 24 members appointed by the President.

## Bills Before Senate Committees

### Commerce Committee:

S. 13—McCarran (D., Nev.), provides for the training of air traffic operators.

S. 14—McCarran (D., Nev.), enacts Aviation Salvage at Sea Convention into Statute Law in U. S.

S. 15—McCarran (D., Nev.), authorizes advanced training in aeronautics of technical personnel of CAA.

S. 16—McCarran (D., Nev.), promotes safety in development of air commerce by regulating the lighting of airports and other landing areas.

S. 104—Caraway (D., Ark.), provides regulations for use of parachutes in commercial aviation.

S. 246—Bailey (D., N. C.), contemplated as the "Civil Aeronautics act of 1943". Companion to H. R. 1012.

S. 851—McCarran (D., Nev.), provides for additional aeronautical training for the youth of America.

S. 1037—McCarran (D., Nev.), makes funds appropriated for civilian pilot training available for War Training Service. Companion to H. R. 1670, passed by House and Senate.

S. Res. 59—McCarran (D., Nev.), directs a subcommittee of the Senate Commerce Committee to make a thorough investigation of the problems involved in readjusting aircraft production to a civilian basis after the war in order to assure U. S. commercial air supremacy.

### Education and Labor Committee:

S. 25—McCarran (D., Nev.), establishes a division of aviation education in the U. S. Office of Education, FSA.

S. J. Res. 22—Pepper (D., Fla.), creates a Congressional committee of 5 Senators and 5 Representatives to study postwar problems.

### Finance Committee:

S. 450—Pepper (D., Fla.), provides for civilian war benefits, including benefits to members of CAP.

S. 846—Mead (D., N. Y.), contemplates as the "First Post War Planning Act of 1943," provides for the preparation now of surveys and plans for public works and improvements which will provide employment opportunities and demands for industrial products upon demobilization. Companion to H. R. 1896.

### Foreign Relations Committee:

S. Res. 114—Ball (R., Minn.), puts the Senate on record as favoring international postwar collaboration and among other things, the maintenance of a United Nations military force.

### Judiciary Committee:

S. 10—O'Mahoney (D., Wyo.), requires corporations (1) to prohibit directors having any financial interest in competing corporations or in any corporation which does business with such corporation; (2) to reasonably compensate directors and to have meetings at least monthly; (3) to disclose to stockholders all transactions between the directors and the corporation; (4) to file with the Justice Dept. a copy of every plan or program with any foreign national or corporation, including contracts, agreements, property rights, patents, and licenses; (5) to make directors trustees for the stockholders, and individually and civilly liable for corporation losses thru violation of Federal law; (6) to forfeit directorships on 6 months failure to attend meetings; (7) to give a vote to each share of stock; and (8) to disclose fully to stockholders all voluntary payments and alterations of stockholders rights.

### Military Affairs:

S. 30—McCarran (D., Nev.), establishes a Dept. of Aviation and consolidates therein the activities of the government relating to military aviation.

S. 41—Hill (D., Ala.), provides for total mobilization of men and material.

S. 148—Barbour (R., N. J.), provides for the appointment of men with physical disabilities to the Army.

S. 607—Kilgore (D., W. Va.), creates an Office of War Mobilization to supersede WPB.

S. 666—Austin (R., Vt.), provides for "drafting" of labor.

S. 702—Kilgore (D., W. Va.), establishes an Office of Scientific and Technological Mobilization.

S. 710—Thomas (D., Utah), provides that enlisted men of the Army, Navy or Coast Guard rated as parachutists shall receive \$100 a month extra pay.

S. 781—Stewart (D., Tenn.), establishes Naval and Military Aviation Academies.

S. 802—Byrd (D., Va.), extends "work or fight" principle to include strikers.

S. J. Res. 10—Wiley (R., Wis.), authorizes the President to issue posthumously to the late Col. Wm. Mitchell a commission as major general, USA.

### Naval Affairs:

S. 233—Clark (D., Mo.), unifies the land, naval and air forces of the U. S.

S. 234—Clark (D., Mo.), establishes a Department of National Defense and consolidates therein the War and Navy Depts.

in Seward County, Kan., each to cost about or in excess of \$1,000,000. Also, authorization for additional construction in Hillsborough County, Fla., for additional construction in Orangeburg County, S. C., contract for reconstruction of existing runways and construction of additional taxiways and paved areas in Pennington County, S. D., each to cost in excess of \$2,000,000. And, authorization for improvement of runway facilities in Essex County, N. J., to cost about \$4,000,000.

## Davison Addresses SAE

"The Automotive Industry in Naval Aircraft Production," by Rear Admiral Ralph E. Davison, U. S. Navy's Bureau of Aeronautics, Washington, was one of the addresses of interest to aviation people scheduled at the War Materiel Meeting of the SAE at the Book-Cadillac Hotel, Detroit, June 9 and 10.

# OUT OF THE MUCK OF MAZATLAN..

Out of jungles, swamps, dust and dangers—on coral islands and in sub-arctic wilderness—Pan American has created modern airports the world around.



This is the way Mazatlan, Mexico, looks today—a completely equipped modern airport on the West Coast route between California, Mexico City and the all-important Canal Zone.

## Another "Stepping Stone" to VICTORY

THE story is always different because local conditions differ—but the end is always the same... The community and the country where Pan American builds an airport benefit; the people of an isolated part of the world are brought into direct touch with the main stream of affairs and—most important of all—the day of Victory is brought closer.

At Mazatlan, the land was made available by the Mexican Government. Thousands of dollars were then spent by Pan American's affiliate, *Compañía Mexicana de Aviación*, which now operates the airport... Runways were built; lighting, radio and meteorological equipment, hangars, fueling facilities, etc., were installed.

This achievement has been duplicated many times over since Pan American's first flight, fifteen years ago. Since war began Pan American has markedly stepped up the tempo of its airport-construction program... scores of its new airports and improved ones, are today helping speed victory throughout the world.

Without exaggeration, it can be said that the existence of routes pioneered by Pan American has saved the United Nations' aerial war transport many long months—maybe even years.

*Wings over the World*

## PAN AMERICAN WORLD AIRWAYS

# Arnold Says Price Fixing Stifles Growth of Airlines, Air Freight

Criticism of monopolistic rate-fixing practices in transportation, which have caused "an almost complete suppression of air freight" and stunted airline growth, was presented by Judge Thurman Arnold last fortnight to the Senate Interstate Commerce Committee.

Arnold wrote the criticism last autumn when he was head of the Antitrust Division of the Justice Dept. and contemplated proceedings against all common carriers, attacking all rate structures. The proceedings were dropped at the insistence of the Office of Defense Transportation, War Production Board, War and Navy Depts.

Although these departments contended that the proposed action would interfere with the war effort, Arnold pointed out to the Senate Committee where he read the deferred statement that his position on the matter was that these proceedings would have promoted the war program by bringing about a removal of restrictions on transportation enterprise, lowering rate structures, and reducing war costs by "millions."

Chairman Burton K. Wheeler (D., Mont.) objected to the squelching of the antitrust case, saying it was a "carte blanche to go ahead" and violate the Sherman Antitrust law.

## Cites 2 Factors

Air development has been stifled by two factors, Arnold maintained: (1) a policy of suppressing new airlines; (2) railway alliances with air express.

(1) *New Airlines.* "During the past four years authorizations for only 7,421 miles of new routes out of applications for 42,973 were granted," Arnold said, declaring that development of air transport has been retarded by this policy of suppression of new lines. He opposed the use of "convenience and necessity" as a basis for determining new routes. To illustrate, he used the case of Western Air Lines, which in 1938 applied under convenience and necessity for an outlet in Los Angeles. The certificate was denied "on the theory that there were enough airlines in Los Angeles." There were enough airlines "on the basis of the going fixed rates," Arnold commented, "but on a different rate basis, there would be a different situation"—lower rates would create a greater demand for air transport.

(2) *Air Express.* An "almost complete suppression of air freight transport" has resulted from exclusive contracts between Railway Express Agency, a wholly owned railroad subsidiary, and 23 domestic airlines, Arnold pointed out, reviewing his former statements on this subject which contend that price-fixing has kept air express rates at seven or eight times railroad express rates. Although these contracts have been revised, he said REA still has control over routing of air express.

Differing with those who maintain that air express can never be a direct competitor of railway express, Arnold quoted Grover Loening, aviation technical consultant: "Actual air express rates at pres-

ent average 80 cents a ton-mile which is from five to seven times higher than railway express rates . . . (however) cargo planes can be run at about eight to 10 cents a ton mile. Today we have proof that aircraft can carry express for less than the rate for express carried by railroads, if done in enough volume."

These "strangle holds" on aviation must be broken "and the present policy of suppression supplanted by a policy of full development of competitive means," Arnold proclaimed, saying he was "not attacking the Civil Aeronautics Board" as it is the function of the Antitrust Division to break down price-fixing conspiracies and CAB has no authority to enforce the Sherman Antitrust Act.

## Wheeler Criticizes CAB

Wheeler, however, criticized CAB, remarking: "I must confess that I think the CAB has been asleep at the switch when they themselves did not permit some of these air transport companies that have applied to have permits. I cannot for the life of me understand why they should deny certificates of convenience and necessity. I cannot understand by what process of reasoning they did it. Certainly it was not because of the fact that the air was so filled with airplanes and air transports that they did not have any routing for them. Of course, when you consider radio, there you have a little different situation. There you only have a certain number of wave lengths. Certainly in the air transport field why they should not permit more competition is beyond my comprehension."

"The repercussions from the suppression of air freight transport and the failure to permit expansion of new lines are felt today in the desperate effort to supply the widespread theaters of war with men and materials," Arnold said, continuing:

"The U. S. Army Transport Command is making a valiant effort to meet this transport deficiency. That Command has, in the midst of war, developed an overseas air freight service for distances in excess of 14,000 miles. Utilizing military aircraft, with few exceptions, flights are made daily from Alaska to Chungking, China; from California to New Zealand and Australia; from Canada via Iceland to Britain; and from Florida via Brazil across Africa to the Middle East. However, the deficiency in air freight transport within the nation will continue as long as the railroads retain their hold on the cargo-carrying activities of the domestic airlines."

In the postwar development of increased cargo-carrying by air, Arnold observed that European competitors "will possess geographic advantages of nearness to markets and land flights with airports everywhere available." The U. S., separated from markets by two wide oceans, he said, "will suffer a serious handicap which can only be overcome by attaining a position of world leadership in commercial air transport."

"The ATC is blazing the new trails. Its personnel will be available to the new air freight industry after the war.

Scarcely imaginable developments are inevitable if the air transport industry be kept free from the stifling restrictions of older forms of transport and if vigorous healthy competition within the air transport industry supplies its tried and proved stimulus."

Railroad interests were unreservedly blasted by Arnold, who said:

"Despite the disastrous consequences to themselves and to the nation of past restrictions fostered by railroads, the proposal now is that these restrictions be saddled permanently on the nation in the programs recently announced by the Transportation Association of America and the Association of American Railroads. Acting 'independently' each association has come forward with a plan looking toward the development of regional integrated transportation systems, which would control and operate all rail, motor, water and air transport facilities throughout large geographic areas. This revolutionary program . . . would reverse completely the established public policy toward transportation. . . .

"The Association of American Railroads, in a memo to the Board of Investigation and Research-Transportation on Aug. 4, 1942, announced its intention to seek legislation providing, among other things, for the establishment of a single regulatory body with responsibilities over all forms of transportation and with power to control the expenditure of public monies for the construction of additional transportation facilities. The program is avowedly one of planned scarcity for transportation; it avowedly seeks to eliminate all effective competition in the transportation industry; it is designed to protect the railroads' investments regardless of the economic cost to the nation.

## Program of Railroads

"The program proposed by the railroads for integrated transportation systems means the demise of private ownership in transportation. The economic and political power of such monopolistic integrated transportation system would compel the nation to adopt outright public ownership and operation of all transportation facilities, unless the country is prepared to accept the full equivalent of a fascist organization in what must continue to be a basic industry.

"The monopolistic implications of these integrated transportation systems are not confined to the transportation industry. Such regional monopolies of all forms of transportation would possess the power of life and death over every community and every industry. Their rate policies would determine the location of industry, the sources from which raw materials would be drawn, the markets to which finished products would move, the possibilities of shifting population and industry and the employment opportunities for a large proportion of the working population."

Arnold concluded: "Technological progress in transportation industries, the dynamic influences of air transport, and vast public expenditures for the improvement of highways and waterways assure the public of the protection, of active competition in the postwar period if private groups are not permitted to stifle these new developments or to bring them under common control."





# Six ways to Boost Pro- duction with no Increase in Manpower

... as shown by  
Glenn L. Martin Records

## Encourage Workers' Suggestions:

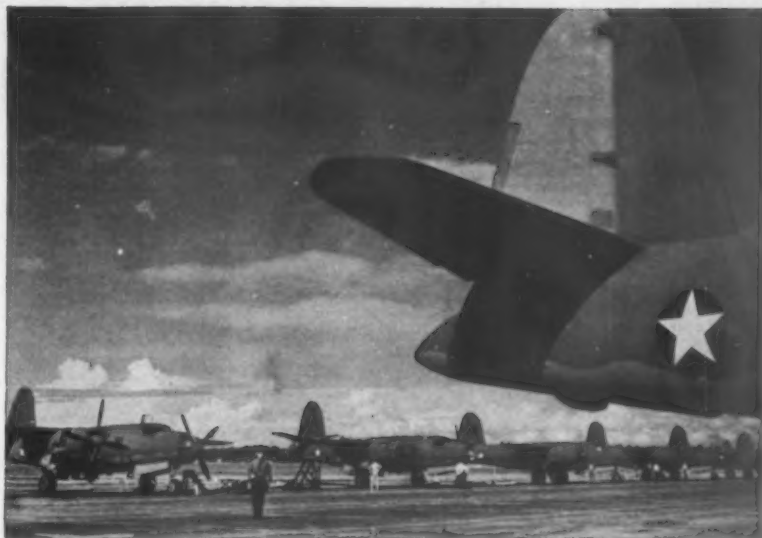
Martin gives cash awards, silver Merit Award pins, membership in the company's Order of the Purple Martin, and a share in proceeds if patentable, for suggestions to speed up production. Many short-cuts, new methods add up to big increases in Martin output. Here Joe Holthaus, Martin worker, studies check received for devising a tool that saves 40% of the time previously devoted to one operation.



**Cut Your Accident Rates:** Whether minor injuries or serious accidents, they cut manpower, slow production. Martin employs safety engineers, organizes workers' safety committees, supplies movies, lectures, special instructions, and numerous posters. In spite of many new workers, Martin accident rate is well below national figure, steadily decreasing. Here a Martin worker displays a "gas mask," protection against toxic fumes from self-sealing fuel tanks.



**Encourage Ride-Sharing:** Poor transportation facilities may cause workers to quit or be periodically late. Moreover, there is less chance of absenteeism if other workers call for the potential absentee. Martin set a national record of 4.5 passengers for each car. Martin traffic control and



**Go After Subcontractors:** Don't wait for subcontractors to come to you. Martin keeps 40 men of its Procurement Dept. on the road, lining up subcontractors, helping them convert. Result: firms that made bottle-caps are turning out wingspars... awnings become parachute slings... milk cans become exhaust stacks. Today, 30% of all Martin work is subcontracted, more fighting planes like those shown above, are being produced.



parking facilities have ended pedestrian accidents, cut vehicular accidents by 60%.



**Watch That Morale:** Posters, organized recreation, good lunches, modern working conditions, houseorgan, merit awards, all raise Martin morale. But little things count, too. Experimentally, Martin found that red work benches made workers short-tempered, blue induced sleepiness, green nausea. A neutral tint upped production. Attractive slacks, called Martinalls, aid feminine morale. Special advisors help solve personal problems. Absenteeism has been reduced far below national average by special services and facilities set up to aid employees. Below, Family Day, with Martin families guests of company.



**Stay in the Scrap:** Organized scrap collection in Martin plants helps prevent work slowdown through lack of raw materials. Enough material is salvaged from building of 2 Martin bombers to build a third. Many imperfect parts, instead of being scrapped and labor wasted, are adapted for other jobs. Martin invented mechanical rivet-sorter to sort thousands of dropped rivets, saves endless man-hours of hand sorting. Above, Martin scrap going back to the mills for re-use.



Martin findings on any of the above production aids available upon request by plants engaged in war work. Write: THE GLENN L. MARTIN COMPANY, BALTIMORE, MD., U. S. A.

Member: AIRCRAFT WAR PRODUCTION COUNCIL, EAST COAST, INC.



# Martin

AIRCRAFT

Builders of Dependable  Aircraft Since 1909

# More Planes for Airlines Are Urged by Col. Gorrell

## Tremendous Impetus to War Effort Will Result, He Asserts

**T**HE quickest and easiest stride toward greater wartime production efficiency would be the granting to the airlines of a few more air-planes, enabling them to carry vital war materials that are now often left behind, Col. Edgar S. Gorrell, president of the Air Transport Association, said on June 4.

Speaking before the 8th annual meeting of the ATA in New York, Col. Gorrell asserted that although the airlines are carrying tremendous loads they are "turning away about as many passengers, as much freight and mail, as we are transporting and much of this is wartime emergency traffic that is being thus refused transportation."

He revealed that figures ("which I understand reflect only about 50% of the real situation") show that more than 1,000,000 lbs. of air cargo have been refused in the past seven and one-half months. During the first 15 days of May nearly 150,000 lbs. of air express were refused transportation by air, he added.

The Army recently released six transports to the airlines, the first three of which will go to Pennsylvania-Central, Western and Delta. Airline officials, while agreeing that the six will help, emphasize that at least 20 more are necessary to break existing bottlenecks.

### Big Cargo Gains

"Renewed emphasis on the tremendous wartime job being performed by the domestic air carriers is shown in estimates of operating results during the first five months this year," Col. Gorrell said. "With all companies disclosing sizable increases in operations at the close of last year, figures just compiled by the Association indicate further extension of gains in both the air cargo and air mail divisions."

"The decline in non-wartime passenger travel, together with the fact that we are operating with much less than half of our pre-war equipment, resulted in only the very slight decline in passenger traffic of about 4%. The gains in air cargo transport, however, take on special significance since practically all shipments may be classified as vital war necessities destined to break production-line bottlenecks."

"Estimates show that 5,850,913 ton miles of air express were flown from January through May. This exceeds the 3,940,982 ton miles flown during the 1942 five-month period by nearly 50%, and is more than 68% above the 3,469,485 ton miles flown during the entire year 1940. It is more than 5½ times as great as total shipments in the year 1935, when the

domestic air carriers flew 1,072,742 ton miles.

"Air mail ton miles flown during the five-month period were 13,390,156, an 86% gain over the same period last year, when 7,195,220 ton miles were flown. For the entire year 1940 the figure was 10,037,435, for 1941, 12,900,569, and for 1942, 20,048,278.

"Passenger miles flown were 640,143,617 from January through May, which was about 4 per cent below the comparable 1942 period, when the figure was 667,059,865. In 1942 the civil air carriers reported passenger miles flown of 1,481,976,329, as compared with 1,491,734,671 in 1941.

"The passenger load factor during the first five months approached 90%, as compared with 70% during the first five months of 1942. This means that on an average of all schedules in all directions approximately 90% of passenger capacity is utilized which is definitely the highest passenger load factor on an average basis of any means of transportation. Determined to keep America's air transportation system geared 100% to the war effort, these gains have been made possible only through the complete utilization of all the resources at our command. Airplanes, which a few months ago were averaging in the neighborhood of 1200 miles every day are now flying 1750 miles. Many average well over 1800 miles daily.

"The priority system, which was set up by the War Department right after war broke out, is working most effectively. In excess of 50% of loads are presently

### ATA Elects

Directors of the Air Transport Association, elected at the annual meeting in New York on June 4, were W. A. Patterson, president of United Air Lines; T. E. Braniff, president of Braniff; O. M. Mosier, vice president of American; Terrell C. Drinkwater, executive vice president of Continental; Jack Frye, president of TWA; C. Bedell Monro, president of Pennsylvania-Central, and E. V. Rickenbacker, president of Eastern. Croil Hunter, president of Northwest, was elected vice president of ATA, succeeding C. E. Woolman, vice president and general manager of Delta. M. F. Redfern was named secretary and Joseph Hintersehr treasurer. Fowler Barker submitted his resignation as secretary.

on priorities as regards both passengers and cargo. Heaviest priorities are, of course, on the long cross-country hauls and around key production war-material centers.

"A few more airplanes for the commercial air carriers at this time would give tremendous impetus to the war effort. It would be America's quickest and easiest stride toward greater wartime production efficiency. The billions upon billions of dollars being poured by our Government into the furtherance of the war can be soundly invested only if all bottlenecks are removed from industry.

"This year we are asking our manufacturers for the greatest production job in the history of America. The only way new production records can be achieved is by breaking bottlenecks; by not letting bottlenecks occur; by having critical supplies reach plants in time to prevent shut downs. Air transportation is the one method by which it can be done when there is such a shortage of raw material and critical items as exists today.

### Sold to Army

"Roughly twice as many planes as the air lines are now flying have been transferred through outright sale or lease to the military services. The greater portion of these airplanes have been converted into cargo carriers, and the airlines have contracted to operate some of the planes with their own personnel. Much of the remainder of our equipment is daily in use upon but a moment's notice for military missions. Yet, with far less than half of our equipment, we are setting new records every day. But, at the same time, we are turning away about as many passengers, as much freight and mail, as we are transporting and much of this is wartime emergency traffic that is being thus refused transportation."

"The Post Office Department says the pounds of air mail dispatched by airplane in April were more than 68% ahead of the same month last year; March mailings were 66% ahead; and February more than 74%.

"Figures, which I understand reflect only about 50% the real situation, show that more than one million pounds of air cargo has been refused in the past seven and a half months. During the first fifteen days of last month nearly 150,000 pounds of air express were refused transportation by air.

"That these refusals are causing seri-

(Turn to page 56)



**Comers:** Smiles are very much in evidence in this picture of five members of the "Comers Club," formed by employees of TWA's Intercontinental Division. Standing, left to right, are Harry Youmans, manager of ICD's educational department, and George Klenk, instrument department crew chief. Sitting, left to right, Roy Spengler, maintenance foreman; Jess Hyatt, crew chief, engine build-up department, and president of the club, and Ed Rose, assistant to the manager. The club started with three or four men getting together evenings to discuss maintenance problems, and has developed into one of the most successful employee training projects ever undertaken by the company.

**SINCE 1929**

# TRAINING

**MEN YOU CAN TRUST**

**The Curtiss-Wright Technical Institute graduate is a product of highly specialized training; proved, tested and directly planned. Our unsurpassed and experienced faculty of practical engineers and technicians school him to the exacting requirements of the Aircraft Industry and the U. S. Army Air Forces.**

**CURTISS  
TECHNICAL**



**WRIGHT  
INSTITUTE**

MAJOR G. C. MOSELEY, PRESIDENT SINCE ITS INCEPTION AND SOLE OWNER  
GRAND CENTRAL AIR TERMINAL  
GLENDALE (LOS ANGELES CO.) CALIF.

CONTRACTORS TO THE  
*U. S. Army Air Forces*



**CURTISS-WRIGHT TECHNICAL INSTITUTE**

THIS TOWER OVERLOOKS AVIATION'S MOST DISTINGUISHED SCHOOL OF AERONAUTICS • FOUNDED IN 1929



# UAL Predicts 50-50 Partnership With Mexican Capital in LAMSA

A 50-50 partnership with Mexican capital in ownership and operation of Lineas Aereas Mineras, S. A. is the ultimate aim of United Air Lines if the Civil Aeronautics Board authorizes it to acquire control of LAMSA. This was the declaration of UAL President W. A. Patterson at hearings last fortnight before CAB Examiner J. Francis Reilly on United's application for authority to acquire 75% of LAMSA stock for \$150,000.

Patterson also disclosed plans for extensive improvements in Mexico, including establishment of a school in Mexico City to train Mexican youths as technical men, pilots, traffic and maintenance men and to equip LAMSA personnel for the handling of radio equipment and multi-motored planes when they become available for the route. Under Mexican law, 90% of LAMSA employees will be Mexican.

Patterson emphasized that LAMSA serves the interior of Mexico while Pan American Airways goes down the West Coast, and expressed himself as enthusiastic regarding the potentialities for the development of the Mexican interior and the contribution which air travel and air express can make to the development. He said that basically there will be no connection between the two companies, although at some time in the future direct connections may be sought at Nogales and Los Angeles.

"United has no intention of grabbing the rest of the stock of LAMSA, but on the other hand we hope to end up with 50% owned by UAL and 50% by Mexican capital" he said.

On questioning by public counsel, Patterson placed the net worth of LAMSA at about \$32,000 but said he took "great

pride in the tremendous good will for LAMSA" and could not break down good will, franchises and concessions into monetary figures.

Describing the origin of the current proposal, Patterson said his attention was first called to the possibilities of LAMSA last year by Wayne Fisher, chairman of the Los Angeles Airport Commission, who has extensive business interests in Mexico. Elmer Jones, president of Wells Fargo Express Co. in Mexico, was chosen to discuss the negotiations originally, since he was well known both to United and to Gordon Barry, general manager of LAMSA. Later Wells Fargo served as escrow agent.

A considerable part of the hearing was taken up with testimony by Philip M. Wilcox, vice president-administration of UAL, regarding a \$250,000 loan made last November by United to Barry. This loan was made in Wilcox's name, it was explained, since under Mexican law UAL was not qualified legally to act in Mexico without extensive negotiations which would have required several months for approval by the Mexican government.

John W. Newey, vice president-finance of UAL, testified regarding the LAMSA balance sheets and said that the 1942 profit and loss statement showed a 79,962 pesos loss.

A highlight of Barry's testimony was a declaration that he refused to sell 51% of the stock in his company five years ago to the German Lufthansa for \$250,000. He also said that at various times he had been tendered purchase offers by Leland Hayward of Southwest Airways, Ken Frank, president of Dixie Airlines, and by Reynolds & Company.

Patterson said that before application

## Jack Nichols Joins TWA as Vice Pres.

Rep. Jack Nichols (D., Okla.) was elected to the vice presidency of TWA on May 28, to become effective "in the near



Nichols

future, following his resignation from Congress." He will have headquarters in Kansas City.

Nichols, who has represented the second Oklahoma district for five terms, was elected because "of his broad-gauge legal and investigative experience which has familiarized him with many of the problems confronting commercial aviation," according to Jack Frye, TWA president. "As the chairman of the House of Representatives Select Committee which made an extensive study of civil and commercial aviation Mr. Nichols gained a thorough knowledge of the problems of this industry."

was filed with the CAB for purchase of the route, he had discussed it with the State Dept. and was advised that it would not be inconsistent with the Good Neighbor policy or relations between the U. S. and Mexico. He then went to Mexico City and discussed it with Gen. Alberto Salinas Carranza, chief of the Dept. of Aeronautics, who was quoted as being pleased that UAL experience should be brought into the Mexican line. Patterson asserted that in numerous discussions in Mexico he felt assured that "American enterprise which does something constructive for Mexico, socially and economically, encounters no difficulties."

Barry told the hearing that if CAB refuses to approve the sale, LAMSA will continue to operate, and with daily service, will be in a position to repay its loan. He said daily service will be started July 15 from Mexico City via Puebla, Tehuacan and Salinas Cruz to Suchiate. Service from San Luis Potosi to Laredo was suspended in January. Tri-weekly service was begun Feb. 5 from Chihuahua to Nogales and this was successfully increased to daily service on Apr. 26.

Robert L. Griffith, counsel for American Airlines, intervenors, told the examiner it should be determined whether it is in the public interest for a line not now operating in a foreign country to obtain control of a strictly foreign line. C. W. Jacobs, AA secretary, said his line did not intervene because it wished to oppose UAL's acquisition of LAMSA, but that it wished to be on record and in a position to protect its rights if at some future time UAL seeks to enter Mexico or LAMSA seeks to enter the U. S.

UAL was represented at the hearing by Attorney John Lorch of Chicago. Public counsel was G. Nathan Calkins, Jr., assisted by Harley G. Moorhead.



**fly to India:** These Northwest Airlines pilots participated in a mass flight from the United States to India in several C-46 Commando cargo planes of the Air Transport Command. Shown on their return to Minneapolis are: First row—C. L. Wright, Lyle Strong, Les Smith, R. O. Bain, Walter Bullock, and J. M. Barnes; second row—Warren Schulz and C. P. Wheelock; third row—Robert Ashman, Earl Hale, and Jerry Thompson. The latter, 21 years old, is believed to be the youngest airline captain in the world.



Photo, Courtesy Mid-Continent Airlines showing current Wilcox installations

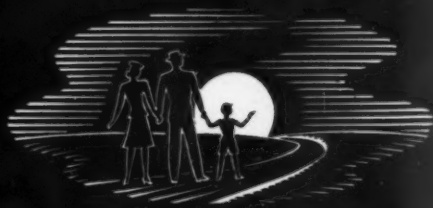
## **Uninterrupted Service IS Vital to Safe Air Transportation**

Dependable communications are the keynote. There must be no failure. For years, Wilcox has made radio equipment to help carry on flight control safely. Today, the "know-how" of Wilcox facilities is entirely devoted to manufacture for military needs. After peace is secured, the marvels of radio development will be working for better living.



### **WILCOX ELECTRIC COMPANY**

Quality Manufacturing of Radio Equipment  
14TH & CHESTNUT KANSAS CITY, MISSOURI



## Here's What You're Fighting For...

... your way of life! Every man interprets it a little differently, but to us all it means a car, a radio, a refrigerator; the right to those things that make our daily life pleasanter, more convenient, more exciting. Today Weatherhead plants are producing vital parts for planes, tanks, ships, trucks and munitions at the rate of *millions every twenty four hours*. The coming of Peace will find us prepared to join with you in building the durable goods all the world will want from America as well as many strange new devices that are even now being born in the war.

Look Ahead with



# Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND, OHIO

*Manufacturers of vital parts for the automotive, aviation,  
refrigeration and other key industries.*

Branch Offices: Detroit, Los Angeles, New York and St. Louis



## AA Foreman Cuts Time of Tire Change To Less Than One Hour

An important time-saving method of changing tires on war cargo transport planes has been devised by Luther Mead, foreman of line maintenance shop and equipment for American Airlines.

Using the Mead method, two workers can change a tire on a Consolidated C-87 in less than one hour, instead of the former necessity of a six-man team working three shifts of eight hours, according to American Airlines.

The tire and rim of a C-87, the type of plane manned by American Airlines for government work in transporting supplies weigh 580 pounds. Maintenance men used to handle these manually, as the motorist handles his tires. Even the simple maneuver of removing the wheel from the plane was a headache, as the plane has to be jacked dangerously high so that the men could grip the under surface of the tire. Removing the tire from the rim of the wheel was even harder, as the heat generated through the tire during a landing is so great that the rubber becomes "vulcanized" to the wheel metal. The tiny grooves in the metal, cut to prevent slipping, catch the expanding rubber and hold it.

To loosen the bead of the tire from the rim, sledge hammers were formerly used. These were clumsy and inefficient tools, and often damaged the tire beyond repair, American states. An equalized pressure ring was tried around the edge of the rim, but this only fixed the tire tighter.

After observing these difficulties for some time, Mead hit on a plan which would first eliminate the necessity for lifting the wheels by manpower, and second, safeguard precious equipment against damage of any kind.

Considering the problems involved step by step, Mead first built a "wheel skate." This is a platform slung one inch from the floor between three-inch casters, making it necessary to jack the plane up only one inch, and eliminating the undesirable

lack of balance made when a large plane is jacked high. When the wheel rests on the 30-inch square platform of the skate it is released from the axle and rolled away, supported by an iron railing built on one side of the skate.

The next step is to move the tire from the skate to the specially equipped stand. Mead's solution of this back-breaking problem was to install an electrically operated hoist with a double pronged hook attached to drop down over the tire and lodge securely in the brake drum. The wheel is picked up by the hook, craned along on an overhead rail, and swung on a stand so that operators may work on the tire at a comfortable level. The axle on which the tire is mounted is constructed exactly like the one on the plane, so that the tire may be moored firmly.

Breaking the rubber away from the rim was always the greatest difficulty, and its solution was the simplest in the whole new process, according to Mead. He attached a long lever to the stand axle, fitting to it a short arm ending in a curved foot. The foot fits down close to the bead of tire and rim edge. The wheel is then revolved two inches at a time, and with each turn the operator presses his lever, loosening the bead all the way around in about 20 minutes. Great pressure may be exerted in this way, as the lever itself is long and its fulcrum high.

As this levering operation was so successful, Mead installed another lever on the opposite side of the tire so that two men can loosen both beads at once, and the tire will have to be moved from the axle only to take it back to the plane.

To lift the tire from the rim after it is loosened, a sling arrangement of aircraft cable is attached to the electric hoist, and the tire is readily swung free of the stand. The skate is used to remove the wheel itself from the stand.

The whole process can be done within a few yards of the plane being serviced.



In this photo, the wheel is being lowered to rest on the skate.

The equipment for the operation can be moved any distance in an emergency, and the one electrical part could be substituted by a mechanical crane. Although the method was developed for changing unwieldy tires of C-87's (converted B-24's), the parts can be modified for use with any plane.

One of American Airlines' pioneers, Mead has been with the company for thirteen years.

### Woman Files Application for Three Feeder Routes

Angeline Harris, the first woman to file an application with the CAB for an air route, is seeking permission to operate a feeder service using "autogiros, helicopters, aerocoups and, when necessary, conventional airplanes."

She asks CAB approval of operations from Rutherfordton, N. C., to Union City, Tenn., and Raleigh, N. C., and also for a circular route out of Rutherfordton.

Filing as an individual rather than as an affiliate of any organization, she seeks permission to serve every first and second class post office along the proposed routes.



These photos show two of the operations involved in Luther Mead's method of making airplane tire changes easy. On the left is seen the double-pronged hook of the electrically operated hoist. The hook carries the tire from the "wheel skate" to the dummy axle, shown on the stand to the left. In the picture on the right, American Airlines maintenance men pry tire from rim, loosening bead on each side simultaneously. The wheel is turned two inches at a time.

## CAB Members Plan Visits to Airlines

Members of the Civil Aeronautics Board will alternate in making extensive industry tours during the summer. Oswald Ryan is currently in Mexico following several speeches in the Dallas area and inspection of airline centers. Edward P. Warner was in London briefly to deliver the 31st Wilbur Wright Memorial Lecture to the Royal Aeronautical Society.

Most extensive trip will be taken by Josh Lee, newest CAB member. He will leave in mid-June with Stuart Tipton, general counsel of the CAA, on an air trip covering all of Central and South America. Harllee Branch is to go to Denver shortly to inspect Continental Air Lines, and Chairman L. Welch Pogue is planning a swing to the west coast in July. It is planned that a quorum of three members will be present in Washington at all times.

## Skyway Corp. Applies for Helicopter Lines

Application for helicopter routes in five northeastern states has been filed with the Civil Aeronautics Board by Skyway Corp.

In Connecticut, the company wishes to serve Bridgeport, Greenwich, Hartford, Meriden, Middletown, New Britain, New Haven, New London, Norwalk, Putnam, Stamford, Torrington, Waterbury, Williamantic and Winsted.

Massachusetts stops would be Boston, Brockton, Edgartown, Fall River, Fitchburg, Haverhill, Holyoke, Lawrence, Lowell, Lynn, New Bedford, Newburyport, Northampton, Pittsfield, Quincy, Salem, Springfield, Taunton, Waltham, Webster, Woods Hole and Worcester.

New Hampshire stops include Concord, Manchester, and Nashua, while New York includes Albany, Hudson, Huntington, Kingston, Mount Vernon, New York, Newburgh, Poughkeepsie, and White Plains. Newport, Providence, Woonsocket and Westerly would be served in Rhode Island.

The application, filed by H. L. Weller, 1030 Hospital Trust Bldg., Providence, R. I., stated that the helicopter service "will not be competitive with established long distance transportation by airplane, but . . . will tend to supplement such . . . transportation."

## PAA Engineers Set New Engine Overhaul Record

A crew of Pan American Airways engineers recently changed an engine on a transatlantic Clipper at an en route port of call in less than 20 hours, the company announces. An ailing 1,550 hp. Wright Cyclone 14 cylinder twin-row engine, weighing more than a ton, was removed, its 100 different fuel and control hookups disconnected, and the substitute engine installed in its place—all in 19 hours and 45 minutes, it was reported by Otto Johnson, chief engineer for the company at Port-of-Spain, Trinidad.

## Airline Commentary

Among the many speeches being given nowadays on the postwar possibilities of air transportation, the lecture delivered last fortnight in London by Edward Warner stands out . . . The vice chairman of the Civil Aeronautics Board gave the 31st Wilbur Wright Memorial Lecture before the Royal Aeronautical Society . . . The copy we got had 92 pages and 23 charts . . . From our contact with Mr. Warner we know that he isn't inclined to make very many statements that he can't at least partly substantiate with his slide rule . . . Therefore, the predictions in his lecture are worth studying . . .

About two months ago, there was considerable furor over airline passenger fares, with CAB ordering the airlines to show cause why such fares should not be reduced by about 10% . . . Since then, there has been little publicity on the subject . . . However, at least six lines, we learn, are working on reduced tariffs and expect to file them with CAB shortly . . . The six are United, American, TWA, Eastern, Western and Braniff . . . Hearing will still be held on CAB's show cause order . . .

Roy Martin, superintendent of air mail, tells us that pounds of air mail dispatched to planes in April were 68.32% ahead of the same month last year. This is the latest figure available and represents an almost unprecedented increase . . . The six planes released to the airlines by the Army will help, but they won't go too far toward solving the situation . . . Biggest need of the Post Office is for more transcontinental service . . .

Pan American Airways, with its far-flung routes, is becoming accustomed to meeting unusual situations as they arise . . . Capt. J. T. Stewart, flying one of the company's ski-equipped Pilgrims from Nome to Fairbanks in Alaska, suddenly discovered that the snow on which he expected to land at Fairbanks had melted . . . Fred Moller, flight mechanic at the field, had the situation under control, however . . . A few minutes before the plane was scheduled to arrive he set a maintenance crew to work with a water hose, wetting down the dirt landing strip to the consistency of soupy mud . . . The plane landed without jolting a passenger . . . That's what we call using your head . . .

The airlines' step in making public their answers to CAB's 17 questions on international aviation policy has been praised in many quarters, and CAB has been praised for allowing the answers to be made public . . . Some of the answers of other individuals not yet released are equally interesting . . . One, for instance, had advanced the theory that foreign airlines operating to the U. S. after the war should not be allowed to carry away from our shores more than one-half of the traffic . . . In other words, the U. S. airline (or airlines) would carry half the business, the rest being divided among all the foreign lines . . . We would be in the same position on traffic coming to the U. S. . . . This individual, whose opinions carry weight, also states emphatically that no subsidized foreign lines should be permitted to compete with private U. S. companies . . .

Someone was telling us the other day just what part of a day's delivery of DC-3s was represented by the six planes recently turned over to the airlines by the Army . . . And we concluded that it wouldn't exactly lose the war to give the lines a few more . . . This someone also thought it would make good reading to report how many were earmarked at the same time for the Air Transport Command, and the purpose for which they will be used . . . He told us the alleged number and the alleged purpose, but we ain't talkin' yet because it might be a rumor . . .

Insiders insist that Ralph S. Damon will be back with American Airlines before the end of the year . . . Damon took over as president of Republic Aviation Corp. some time ago, and has done a bang-up job . . . Most people forget, however, that he was merely "on loan" and did not resign as vice president and director of American . . . And he hasn't missed any AA directors' meetings since being with Republic . . . The air transport industry will certainly welcome him back . . .

This item is a little far afield from the airline business, but nevertheless interesting . . . It concerns the BSM, which translated means Brotherhood of Sensible Men . . . It all started in the midst of Washington's latest super-duper heatwave . . . Charles Planck, of CAA's public information division, came forward with the idea that, effective June 30, all sensible men should discard coats and stiff collars and go to work in comfortable slacks . . . The idea (Planck's full of them) got quite a play in the local papers and the response from government employees, we understand, was terrific . . . Although his idea was intended for government we imagine that Charlie could find room for private industry . . . Might bring it up at your next directors' meeting . . .

—E. B.



## Whatever the shape of Planes to come

Perhaps the post-war private plane will be a refinement of today's models . . . or it may be one of the new designs . . . the helicopter, the flying wing, or a roadable, folding-wing ship. But whatever the shape of planes to come, many of them will be powered exclusively by Franklin aircraft engines. Already leading airplane manufacturers realize that construction economy and satisfactory flight characteristics are best obtained by standardizing on one make and model of engine. Franklin engines are the logical choice for such standardization, because of their proved economy and reliability, and wide range of models from 65 to 500 H.P. Today's Franklins are the culmination of 43 years' experience in producing air-cooled power.

AIRCOOLED MOTORS CORP., SYRACUSE, N. Y.



FRANKLIN

Currently, Aircooled Motors Corporation's entire facilities are devoted to the design and production of Franklin warplane engines for military and naval use.



# Airport Cement Spreader Moved by Air, Is Given CAA's Approval

A mechanical cement spreader for airports, so designed that it may be disassembled for air shipment, has been approved by the Technical Development Division, Civil Aeronautics Administration. It was built by the Halliburton Oil Well Cementing Co., Duncan, Okla., headed by Erle P. Halliburton, known to the aviation industry 14 years ago as controlling stockholder of Southwest Air Fast Express (SAFEway).

The spreader will improve present procedures used for soil-cement paving construction through an "economical, rapid, and improved method of applying predetermined and controlled amounts of cement to areas of prepared soil for the purpose of stabilization," the CAA engineers announce.

"The possibility of disassembling the equipment for air shipment is a feature which should make it particularly suitable for use in overseas combat zones, where dry materials other than cement may have to be used for soil stabilization purposes," the announcement adds.

Under present procedure, it is necessary to place sacks of cement on the ground, spacing them at required intervals to produce a predetermined percentage of cement content per volume of soil when mixed to a certain depth. The sacks are then broken open and spread by hand.

## Manual Operation Slow

Such manual operation is very slow and labor-consuming. Furthermore, even with painstaking supervision and extended manipulation of the mixture, it has been found that under some conditions the resultant dispersion of cement did not prove to be uniform, resulting in pavement failure.

The new equipment includes the necessary accessories for the spreading of sack or bulk cement. Designed for towing by truck or tractor, it will produce an even distribution of cement over an area six feet wide in any quantity desired between 0.3 and 0.75 cubic feet per square yard of surface. It may move forward at a rate of 150 feet per minute.

The cement is distributed through eight six-inch conveyor screws, feeding from a common hopper. The quantity to be spread is regulated by a simple dial setting which controls the gear ratio between the driving mechanism and the conveyor screws by means of an infinitely variable speed transmission. Power for the transmission is produced by the forward rotation of the dual wheels of the spreader, and transmitted by the axles through an automobile differential in such a manner that the rate of turn of the conveyor screws is directly proportioned to the forward speed of the spreader.

When disassembled for air transport, no component part of the spreader weighs more than 750 pounds, and each part is of such dimension as to fit the door opening of Army transport planes.

If bulk cement is used, a collapsible convoy unit must be part of the equipment. Such a unit has been designed to



**Cement Spreader:** The Halliburton cement sack cutting table and spreader are shown in action. This new device is being used in the construction of airports.

operate from a regulation flat-bed Army truck or trailer. It operates similar to large commercial bulk cement convoys. Conveyor screws in the bottom section of the unit deliver the cement through two outlet spouts into the spreader hopper at a rate of not less than 25 sacks per minute.

The conveyor screws are driven by a 13.8 hp (1,800 rpm) air-cooled engine mounted in front of the convoy. The cement output is controlled by two shut-off valves and a hand throttle which can be operated from the deck of the spreader. Long and short discharge spouts are provided to meet variation in truck sizes and the corresponding variations in the truck center of gravity locations.

The entire convoy unit can be disassembled by removing 34 bolts. Its portable parts also weigh less than 750 pounds.

## Table Required

If sack cement is used, a cutting table is required equipment. This consists of a knife, or circular saw, mounted on a collapsible table with a special chute feeding into the spreader. The sacks are placed on the table and drawn across the cutting edge, allowing the cement to fall through the chute into the spreader's hopper. The cutting table is designed to be attachable to either a standard Army flat-top truck or to a trailer.

Engineers of the Technical Development Division made the following tests of the equipment:

1. Laboratory calibration test of cement spreader.
2. Road test of spreader and convoy unit.
3. Field tests under actual operating conditions.

## Braniff Has Novel Theme

A series of advertisements carrying the central theme "The Globe Starts On Your Main Street" is being distributed by Braniff Airways. The campaign develops the thought that the growth of air transportation must be both local and global in scope, that though emphasis today is placed on the ease with which postwar travelers will span continents and oceans, one must not lose sight of developments that will prove beneficial to the "man on Main Street." The series will appear in aviation, trade, and general magazines and local newspapers throughout the country.

The calibration test of the spreader was made in order to check the dial indicator values against the actual measured amount of cement delivered. Previously, the dial had been calibrated and curves plotted to show the required dial settings necessary to give certain percentages of cement per volume of soil. The tests gave satisfactory results; the average difference between the indicated dial setting and measured results being less than 0.3 per cent.

In order to determine the behavior of the cement spreader, and the convoy units, while being transported to and from construction projects, road tests under full load, and while empty, were conducted at speeds ranging from 15 to 42 miles per hour. No leakage of cement or other defects were noticeable.

## Undergoes Field Tests

The spreader was subjected to field tests on a soil-cement road construction job on Oklahoma State Highway No. 17. Results of these tests, carried out from March 15 through March 18, follows:

Total poundage of cement spread—300,800 lbs.

Total area spread—6,118 sq. yds.

Average pounds per square yard—48.78 lbs.

Average percentage of cement (12% dial setting) obtained during tests—11.53%  
Average delivery rate—29.15 sacks per minute

Facts about the spreader:

Width of spread—controllable up to 6 ft. maximum

Capacity of spread—25-75 sacks per minute

Weight (empty)—3,800 lbs.

Height—46½ in.

Width—97½ in.

Length (less tongue hitch)—55 in.

Flotation—4 tires (dual wheels) ground grip 7.00 x 20.

Facts about the convoy unit:

Capacity—160 sacks of cement

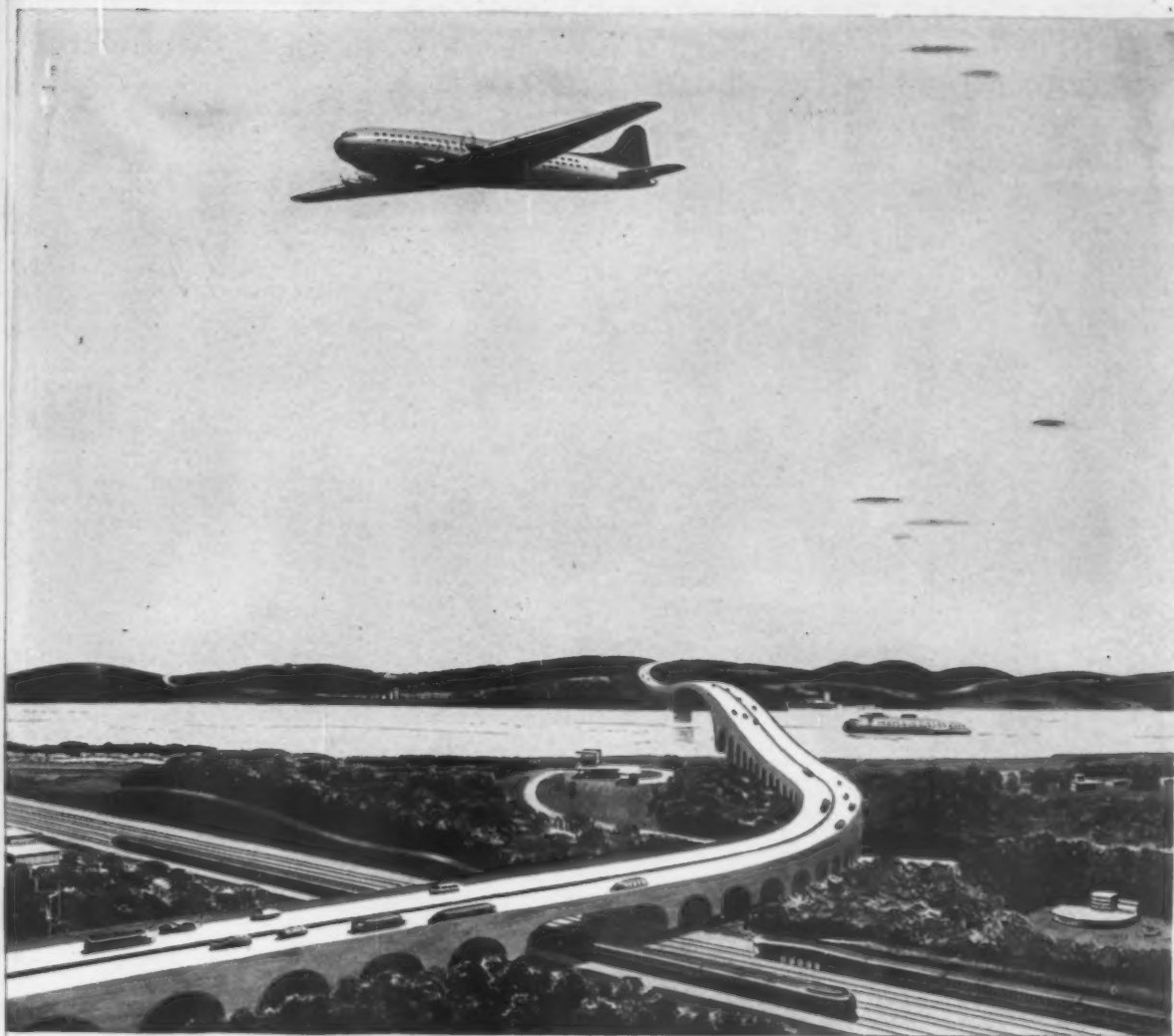
Weight (empty)—3,225 lbs.

Length (less engine, mount and spouts)—60 in.

Width—46 in.

Height—72 in.

Erle P. Halliburton, builder of the spreader, is a cousin of the late Richard Halliburton, author and traveler. When in control of Southwest Air Fast Express, he was one of the first airline operators to experiment with an exclusive passenger service offering fares at railroad rates. In 1929, he offered to carry mail from coast-to-coast for \$2.10 a pound, an extremely low quotation at that time.



## How you will travel—in the *Age of Flight*

Over your home today, United Mainliners are busy flying soldiers, sailors and civilians on missions vital to our national welfare. Over foreign lands, other United planes are carrying guns and ammunition to the very gateways of actual warfare. Both are gaining added experience that will prove invaluable . . . in the coming Age of Flight.

Will you travel only by air in the Age of Flight?

On some trips you will drive over super-highways in automobiles which

will offer unheard-of comforts and economies. To other places, an ultra-modern streamlined train may best serve your purposes. You will cruise leisurely aboard a magnificent ocean liner. Every form of transportation will serve its own particular field with increased efficiency.

But most of your traveling—particularly for medium and long distances—will be by airplane. For the airplane combines remarkable speed with comfort and convenience. The Mainliners of the future will carry you from coast to coast in 11 hours or less. There will be airline service to many foreign lands overnight. Much of your goods and merchandise and most long-distance mail will go by air.

Tomorrow, more people will travel more miles than ever before. You will visit more places in this world than you ever dreamed possible. There will be more sights to see. More markets for the goods you help produce. More of the world's resources will be distributed among the peoples of the world.

Because tomorrow will be the Age of Flight!

★ Buy War Bonds and Stamps for Victory ★

**UNITED**  
**AIR**  **INES**  
 THE MAIN LINE AIRWAY

## British Group

(Continued from page 15)

portance of this matter by individual Ministers, the Committee regrets that it finds in Government policy no adequate appreciation of the unhappy results which may flow from a continuation of the present situation, where British Air Transport represents a very small percentage of that of the United States of America.

"It is obvious that immediately after the war there will be a great demand for air transport services throughout the world. If the British Empire has not the aircraft and the crews with experience to undertake these services, it is clear that they will need to be operated principally by the United States of America. If this in fact occurs, it will be quite unfair to suggest that the United States has taken more than its fair share of international air transport, for our unenviable position will be primarily due to the failure of the British Empire to look squarely at this issue in 1942 and 1943.

"It will be conceded by all the United Nations that the British Empire has played an outstanding part in the war in the air. It would be no contribution to international good fellowship and understanding if after the war the British peoples found that through the lack of a clear and timely policy their supreme efforts in the war in the air were being mocked by crippled opportunity in the air transport services of the world.

"The Joint Air Transport Committee appeals to Parliament, and through it to the nation, to prevent this calamitous situation arising. The Committee considers it imperative that a British Empire policy for air transport both for the remainder of the war and for the peace be agreed as a first step and at once. With Imperial agreement, negotiations should immediately take place with the United States of America with a view to reaching agreement upon the international air services of the British Empire and United States of America. These would exclude both the internal services within and between countries under the British and American flags respectively, for there exists a clear right for all the territories under one flag to link themselves together by air without let or hindrance by other Powers.

"The aim of these negotiations should be to establish the principle that the international air services of the United States and the British Empire should be based on parity in terms of a mutually acceptable yardstick. When this preliminary agreement has been reached discussions should take place with Russia and China and then the remainder of the United Nations to decide what quantitative relation this parity should bear to the air transport services of other countries. It must, however, be emphasized that although an agreed international structure is most desirable, our future will depend, as always, on our own enterprise and resolution.

"On the operational side, air transport is clearly becoming increasingly important to the war effort, and the Joint Committee accordingly congratulates the Government on its decision to establish the Air Transport Command for this purpose. The Committee trusts that this Command will be

generously furnished with transport types of aircraft. In the first instance these may need to be American, but it is important that new and modern types of British transport aircraft should be put in hand forthwith, and it is suggested that this can now be done without detriment to our air offensive. The Committee also emphasizes the importance of developing the British Overseas Airways Corporation, so that with an increased degree of autonomy its prestige may be restored and it may play a distinguished part in the air transport services of the Empire.

"In regard to the postwar position, the Joint Committee is further considering the problems involved, but already it is satisfied beyond all doubt that for a vigorous and progressive air transport system it will be necessary to rely not on one only but on a number of separate organizations under the British flag, in which private enterprise must play its proper part. It is inconceivable that the outstanding successes of our mercantile marine could have been achieved through the medium of one state-owned, state-controlled steamship organization. There is no justification for thinking that sea transport and air transport differ in this matter of fundamental organization.

"The association of the Air Ministry with civil air transport has been neither happy nor successful, and it is vital that as soon as practicable after the war the responsibilities of Government as regards air transport should be in the hands of a non-military Ministry.

"Strong, efficient air transport services are essential to permit the British Empire to play its full and proper role both in the military effort of the war and in the stable organization of the peace. Action is imperative now."



### Shortsnorters Beware:

This is a "Fuff"—a gold-digging female gremlin who steals your Shortsnorter bill and puts the signatures from it on those checks that people find in their bank statements that they swear they didn't write but they finally admit they did." TWA's clever Eldon Frye, who has prepared several pamphlets for company employees (including the now-famous one on gremlins) is responsible for this picture and caption.

## U. S. Committee

(Continued from page 15)

to file a supplementary and more detailed report.

The committee's action opposing government ownership was not originally unanimous. One strong member advocated a 35% government ownership plan but reversed his position at a subsequent meeting. Another member believed to advocate government ownership but whether he went so far as to vote for it is not known.

One authority in a position to know the facts maintains the President has no preconceived ideas on how foreign air transport should be handled, and is certain the Administration is not committed as yet to any set policy.

One unknown factor is the AAF Air Transport Command. Rumors have been buzzing throughout aviation circles that the ATC was building up a world-wide empire in preparation for conversion into a government airline when the war ends. Much of this talk is discounted but there are definite indications that some such thinking had been in progress among some ATC officers. It seems certain the ATC will continue to operate for a period after cessation of hostilities but most observers discount the prospects of ATC being continued indefinitely. Most ATC men are anxious for the war to end so they can return to commercial airline jobs and would not want to be civil service servants in a government operation.

Discussions between this country and Great Britain are postponed until early autumn. Judging from advices from England the British are far from being prepared to set forth their wishes with regard to postwar aviation, and conferences with the Dominions are by no means completed. Evidently the British run into unexpected obstacles in these discussions. Powerful British industrial and shipping interests are definitely opposed to a single government-owned British airline, and want private enterprise to have an opportunity to participate in postwar air transport expansion.

## All American Registers

### 26,218 Shares of Stock

All American Aviation Inc., Wilmington, Del., has filed with the Securities and Exchange Commission a registration covering 26,218 shares of \$25 par convertible non-cumulative preferred stock to be offered at par, according to report.

This stock will be first offered to present holders of All American's common stock, and company also has plans to issue an indeterminate amount of \$1 par common shares which will be issued for conversion of the preferred stock, report said.

Initial offering of the new preferred will be made to holders of 10 or more shares of common, on the basis of one preferred for 10 common. After 10 days the unsubscribed preferred stock will be offered to the public or through underwriters at \$25 a share.



# THEY'RE GRASSHOPPERS—B'GAWD!



Abel Grasshopper reporting for duty. Able to climb quickly restricted space . . . able to land anywhere—and willing to do any where the Army may need.



War or Peace . . . when anything new takes place in lightplane progress, expect it to start with Aeronca . . . that's why Grasshoppers were born! ★ ★ ★ Just a short time before America's official entry into the war, the Army decided to experiment with light planes under actual combat conditions . . . take-offs from small, bumpy fields . . . landings in congested areas . . . sometimes a country road . . . often just a common cow pasture . . . all kinds of weather . . . and constant alerts both day and night. ★ ★ ★ And the easily handled Aeroncas came through all gruelling tests with such a record for dependability, that today, satisfied Air Corps Personnel

allocate them for pre-glider training, liaison work with troops afield, artillery operations, and various other assignments for which their maneuverability and control qualify them. ★ ★ ★ Officially designated as the Army's L-3-C . . . a keen-minded brass hat, after seeing them perform, promptly dubbed them "Grasshoppers" . . . We emphasize with modest pride this apt appreciation of Aeronca "First and Finest." Aeronca Aircraft Corporation, Middletown, O.

A full-color book to delight the young in heart . . . Walt Disney's "Mr. Grasshopper Wins His Wings". Send 10¢ in stamps to Dept. B, Aeronca Aircraft Corp., Middletown, Ohio.



## AERONCA

FIRST *Grasshopper* FINEST



## Inland Asks Alaskan Line, 17 Other Routes

A route to Alaska and 16 additional air-line operations within the U. S. are being sought by Inland Air Lines in application filed with CAB.

Inland asked for air service from Great Falls, Montana, to Nome, Alaska, via Lethbridge, Calgary, Edmonton, Grand Prairie, Ft. St. John, Whitehorse and Fairbanks, and from Fairbanks to Bethel via Anchorage.

Other routes include (1) Minneapolis-Denver via Mankato, Sioux City, Norfolk, N. Platte, Sterling and Ft. Morgan; (2) Chicago-Seattle via Rockford, Dubuque, Mason City, Sioux Falls, Mitchell, Pierre, Rapid City, Sheridan, Billings, Lewistown, Great Falls and Spokane; (3) Billings-Casper via Cody, Greybull and Worland; (4) Billings-Rock Springs via Lovell, Greybull, Worland, Thermopolis, Riverton and Lander; (5) Rapid City-Rawlins via Casper; (6) Cheyenne-Salt Lake City via Laramie, Rawlins and Rock Springs; (7) Cheyenne-Omaha via Sidney, Ogallala, North Platte, Kearney, Grand Island and Lincoln; (8) Huron-Mankato via Brookings; (9) Casper-Omaha via Douglas, Lusk, Crawford, Chadron, Gordon, Valentine, Ainsworth, O'Neill, Norfolk and Fremont; (10) Casper-North Platte via Douglas, Torrington and Scottsbluff; (11) Omaha-Sioux Falls via Sioux City; (12) Scottsbluff-Ainsworth via Alliance; (13) Rawlins-Jackson via Lander; (14) Denver-Cheyenne via Greeley; (15) Denver-Casper via Ft. Collins and Laramie, and (16) Lander-Casper via Riverton.

## Margaret R. Scott Joins Universal Airline Schedules

Mrs. Margaret Russell Scott, formerly of American Airlines, has joined the staff of *Universal Airline Schedules* as office manager of the Chicago office.

Mrs. Scott at one time worked with Cunard Steamship Lines, joining American in February, 1933 when the company's general offices were moved to Chicago. She served as secretary to the publicity director, to J. D. Hungerford, in charge of tariffs and schedules, and to the supervisor of reservations and ticket offices. Later she did temporary work in the personnel department.

Her husband, Raymond J. Scott, is general foreman-maintenance in American's Chicago station.

*Universal Airline Schedules* is published by American Aviation Associates, Inc.

## Mid-Continent Elects

Mid-Continent Airlines, Inc. announces election of the following directors and officers: W. W. Howes and John S. Wynne, Washington, D. C.; T. N. Law, Tulsa, Okla.; Milton McGreevy and J. W. Miller, Kansas City, Mo.; G. D. Murdoch, Los Angeles, Cal.; and J. A. Zock, New York City, directors. J. A. Zock, chairman of the board; J. W. Miller, president and general manager; J. A. Cunningham and W. W. Howes, vice presidents; C. A. Wicks, secretary and treasurer; Martha Knecht, assistant secretary and assistant treasurer.

## Actions of the Civil Aeronautics Board

Order No. 2197, Mar. 19, 1943: Denied petition of Walter Thompson for waiver of citizenship, provisions of section 20.102 of the Civil Air Regulations, claiming that Thompson "is a citizen of Denmark."

Order No. 2199, Mar. 22, 1943: In the case of Robert A. Nelson, holder of commercial pilot certificate No. 27849, and applicant for instructor rating certificate, denied petition of Administrator for reconsideration of order No. 2134, for lack of "an adequate basis for reconsideration."

Order No. 2200, Mar. 24, 1943: Suspended for 60 days student pilot certificate No. 457981, held by James D. Waldrop, claiming Waldrop carried a passenger who was not a certificated instructor.

Order No. 2201, Mar. 24, 1943: Revoked air agency certificates Nos. 2014 and 489, held by R. Stuart Weeks, because of alleged "disregard for the Civil Air Regulations . . ."

Order No. 2206, Mar. 31, 1943: Directed that Earl Lundhigh, holder of student pilot certificate No. 429711, be limited for a period of 12 months, to piloting only while "receiving instruction, making check flights accompanied by instructors or inspectors of the Administrator of Civil Aeronautics or while employed by the Department of War or the Department of Navy," alleging Lundhigh made inaccurate entries in his log book.

Order No. 2207, Mar. 31, 1943: Similarly, in the case of Hugh A. Metz, holder of student pilot certificate No. 261310, limited for one year Metz's use of certificate, as described above, with the added proviso of: "while on duty with the Civil Air Patrol."

Order No. 2208, Mar. 31, 1943: Approved agreement, as amended, between Transcontinental and Western Air, Inc., and Railway Express Agency, Inc., regarding "the development and operation by the parties thereto of an air express service."

Order No. 2209, Mar. 31, 1943: In the case of E. E. Basham, Sr., holder of airline transport pilot certificate No. 2440, designated Kenneth K. Johnston, or any person nominated by him, to take depositions of H. J. Rader and S. R. Ross, at LaGuardia Field, Apr. 9, 1943, at 10 a.m.

Order No. 2210, Apr. 2, 1943: Revoked student pilot certificate No. S-412401, held by Stephen F. Nagy, claiming repeated violations of the Civil Air Regulations since 1935, and alleged "lack of moral character."

Order No. 2212, Apr. 7, 1943: In the case of Samuel B. White, holder of mechanic certificate No. 108123 with parachute rigger rating and ground instructor certificate No. 31231-40, directed that period of time allowed by the Examiner to file and serve any counter-exceptions or any response to the Administrator's exceptions, shall be shortened to eight days after respondent receives notice of exceptions filed by the Administrator.

Order No. 2213, Apr. 7, 1943: Approved the holding by V. P. Conroy of positions as director in both Transcontinental and Western Air, Inc., and in Air Cargo, Inc.

Order No. 2214, Apr. 7, 1943: Authorized Pan American Airways to serve Cayenne, French Guiana "immediately," through the use of Gallion Field, Cayenne, French Guiana, subject to any amendment of Pan Am's operating certificate.

Order No. 2215, Apr. 7, 1943: Authorized Pan American Airways to serve New Orleans, La., through use of the New Orleans Municipal Airport, effective on date of order, provided that no operating certificate has been received by Pan Am previously.

Order No. 2216, Apr. 8, 1943: Limited commercial pilot certificate No. 142293, held by Roger D. Shook, for 90 days so that Shook may pilot civil aircraft "only while under the direction or supervision of the Department of War," for alleged violations of the Civil Air Regulations.

Order No. 2217, Apr. 8, 1943: Likewise, limited the commercial pilot certificate, No. 41700, held by Arthur W. Beall, Jr. for 90 days to restrictions as described under 2216, above, for same reasons.

Order No. 2218, Apr. 8, 1943: Similarly, in the case of Warney L. Crosby, holder of commercial pilot certificate No. 81791-41, limited activities for 90 days as described in 2216 and 2217, above, for alleged violations of the Regulations.

Order No. 2219, Apr. 8, 1943: Directed that in the case of Howard B. Dean and Pan American Airways, application for approval of interlocking relationship, certain information be withheld from public disclosure.

Order No. 2220, Apr. 9, 1943: Suspended for six months private pilot certificate No. 124415, held by James G. Brown, for several alleged infractions of the regulations.

Order No. 2221, Apr. 9, 1943: Revoked student pilot certificate No. 422935, held by Ralph R. Connor, for alleged "carelessness" evidenced in violations of the Civil Air Regulations.

Order No. 2222, Apr. 9, 1943: Denied petition of Robert L. Smith for waiver of section 21.161 (b) of the Regulations which require 1200 hours of certified flying time within the past 10 years of each applicant.

Order No. 2223, Apr. 12, 1943: In the case of Rickliffe M. Decker, holder of private pilot certificate No. 54112 authorized the taking of depositions from Harry R. Amond and Erwin Baum.

Order No. 2224, Apr. 12, 1943: Amended revocation order No. 1970, dated Oct. 10, 1942, affecting Ronald A. Smith, holder of private pilot certificate No. 53862-41 so that after Apr. 12, 1943, Smith may apply for any type of pilot certificate, but limited to piloting aircraft "only while receiving instructions or making check flights accompanied by instructors or inspectors of the Civil Aeronautics Administration or while piloting aircraft on military duty."

Order No. 2225, Apr. 12, 1943: Suspended for 90 days commercial pilot certificate No. 140965, held by Eugene James, and revoked instructor rating, because of several alleged infractions of the Civil Air Regulations.

Order No. 2226, Apr. 12, 1943: Denied petition of William W. Covington for waiver of section 20.120 of the Regulations (age requirement) and for issuance of a private pilot certificate.

Order No. 2227, Apr. 12, 1943: In the case of Samuel B. White, holder of mechanic certificate No. 108125, designated for oral argument, Saturday, Apr. 17, 1943, in Room 5042, Commerce Building, Washington, D. C.

Order No. 2228, Apr. 9, 1943: Suspended for 15 days private pilot certificate No. 241713, held by Everett J. Meyers, for what it claims were violations of the Civil Air Regulations.

Order No. 2229, Apr. 12, 1943: On request of Pan American Airways, rescinded order of Dec. 12, 1941 which withheld public disclosure of Pan Am's request for approval of the acquisition of control of Aeronaves de Mexico, S. A.

Order No. 2230, Apr. 15, 1943: Exempted Pan American Airways from sections 238.3 and 238.5 of the Economic Regulations which would otherwise require airport notices with respect to service into Aniak, Lake Minchumina and Moses Point, Alaska, and authorized inauguration of service to those points through the use of Aniak Intermediate Field, Minchumina Intermediate Field, and Moses Point Commercial Field.



# SYMBOL OF SAFETY



The name "IRVIN" on the harness means the chute is produced in an Irvin Factory with over 20 years' experience and skill in chute-making.

Literature can be had by school or training executives for the asking, Address Main Office, Buffalo, N. Y.

**IRVING AIR CHUTE CO., Inc.,** 1670 Jefferson Ave., Buffalo, N. Y.  
Factories at other points in the United States, Canada and England



## The CATERPILLAR CLUB

Founded in 1920. There is only one qualification for a life membership: in an emergency men and women who have saved their lives with Irvin Air Chutes.

Many of the personnel of the flying services engaged in all phases of war have successfully used their Irvin Air Chutes in extreme emergency.

The word CATERPILLAR and the representation of a caterpillar are registered trade-mark features of Irving Air Chute Co., Inc. We are anxious that the records of the Club be kept as complete as possible in the Club Register and members, upon enrollment, will receive a caterpillar token with the name inscribed thereon. Communicate with Main Office.

# IRVIN

## *Air Chutes*

SERVING THE UNITED NATIONS' AIR FORCES



# For FASTEST DELIVERY ship when ready!



**Y**OU can expedite delivery of your AIR EXPRESS packages and help avoid congestion of vital war shipments by shipping when ready, as early in the day as possible.

This will help us get your shipments on the "earliest plane out" so they will be delivered sooner than if you waited until end of day when airline traffic is at its peak.

And to cut costs—AIR EXPRESS packages should be *packed compactly but securely*—to obtain best ratio of size to weight.

## Air Express Speeds War Program

**TODAY**, AIR EXPRESS not only serves the home front but is also working hand in hand with the Army and Navy to supply our fighting fronts throughout the world.

**TOMORROW**, AIR EXPRESS will girdle the globe in international peacetime commerce . . . to bring *all* foreign markets to the doorstep of American business.



Phone RAILWAY EXPRESS AGENCY, AIR EXPRESS DIVISION  
Representing the AIRLINES of the United States

WRITE for our quick-reference handbook on "How to Ship by AIR EXPRESS During Wartime." Dept. PR-1, Railway Express Agency, 230 Park Avenue, N.Y. C.

## Airline Personnel



Knoop



Ferguson

## In the Services

Capt. Felix Preeg and Capt. H. R. "Dutch" Holloway, veteran TWA pilots out of the West Coast division, are now undergoing training to fly the foreign routes of TWA's Intercontinental Division, under contract to the Air Transport Command.

Fenton W. Pickles, with Eastern Air Lines and the Air Transport Command as a flight radio operator, has been transferred to Miami.

Maj. Frank E. Quindry, formerly Chicago counsel for United Air Lines, has been appointed commanding officer of the Bruning Air Base, U. S. AAF.

## Traffic and Sales

Richard I. Pittelkow, former special agent for the FBI, has been appointed assistant chief accountant for Northwest Airlines, as assistant to A. D. Pieppme, with offices at St. Paul.

Ernie Miehle, former traffic representative for American in Los Angeles, has been named representative for air mail express and freight in that city.

## Operations

Capt. Harold L. Knoop, one of United's veterans on the New York-Chicago run, has been named superintendent of flight operations for UAL at Chicago.

Hal Sims, former chief passenger agent for TWA at Lockheed Air Terminal, has been promoted to assistant station manager for the company.

## Miscellaneous

K. R. Ferguson, vice president of Northwest Airlines in charge of operations, has been elected a member of NWA's board of directors.

William C. Burks has been appointed director of research and planning for Chicago and Southern Air Lines, to direct all those activities and also post-war air cargo transportation. William L. Gillen succeeds Burks as Chicago director.

Harold T. LeMay, formerly with NWA's personnel office in Minneapolis-St. Paul, has been appointed supervisor of all the airline's personnel at its Ohio bomb modification project.

"Gee, Bill . . . I'm glad I fly  
behind windshield wipers  
in landings like this!"



MARQUETTE *all-weather* WINDSHIELD WIPERS

ELECTRIC OR HYDRAULIC



The **Marquette** METAL PRODUCTS CO.  
CLEVELAND, OHIO

## Correll

(Continued from page 40)

ous concern to manufacturers from whom the entire nation is demanding new production records is seen in a communication just received from one of the world's largest engine manufacturers. He writes:

"You, no doubt, are aware of the fact that it is imperative that we use air express to a large extent. This is caused by the tremendous rate of speed this company is geared to.

"There have been some instances where, due to the tremendous amount of material moving, that our shipments are not loaded aboard their planes. This has caused a definite slow down, and in a few instances, has caused complete shut downs of various departments here at the plant . . .

"In brief, it is our hope that the commercial airlines be granted more aircraft to carry out their all important work."

1942.

"That is not an isolated case. Others just as serious are being brought to our attention each day . . .

"No industry appreciates more keenly than the Air Transport Industry that military needs come first. Neither has any industry gone more 'all-out' for the war effort than our commercial airlines. President Roosevelt, himself, recently said that air transport 'has become a necessary adjunct of our war effort.' With additional equipment the airlines could make a far greater contribution to the war program by preventing many bottlenecks that now occur in America's production effort.

"All of our shops are operating on a 24 hour-a-day schedule. Despite the heavy flying schedules, there has been no relaxation whatsoever in safety. . . .

"The foresight of the Congress in enacting the Civil Aeronautics Act of 1938 has made possible the building of a worldwide air transportation system. That the airlines were prepared to go to war immediately after the treacherous attack upon Pearl Harbor was made possible only by the wisdom of our legislators five years ago. Let them now do no less in providing for peace.

"A fit running mate for the 1938 Act is the Lea-Bailey Bill, which is now before the Committee on Interstate and Foreign Commerce of the House of Representatives for consideration. It is a far-sighted proposal for postwar legislation. Unless it is enacted, and enacted wisely, there is grave danger that private flying will be crippled; the aeronautical training schools of the country will go bankrupt and close with the signing of an armistice; the aircraft manufacturers will be practically out of business for seven or eight years subsequent to the war; the airlines of the country will be subject to destructive competition; our nation's largest industry of today will be headed for the rocks of destruction; and our returning pilots, mechanics and other skilled heroes will be destined to walk the streets jobless.

"Two years ago I talked in terms of 500 new aircraft for the Air Transport Industry. Today, I see an increase of at least twenty-fold after the war. But such an expansion in commercial aviation will be years away unless the Congress enacts the Lea-Bailey Bill, and does so quickly and wisely."

THE TOMORROW YOU'RE FIGHTING FOR:



# 21:35

O'CLOCK AND ALL'S WELL!

9:35 P.M. as we know it today, will be 21:35 o'clock, TOMORROW . . . when all's well the world 'round. You can forget "A.M. and P.M." because you'll be using the 24-hour Global Clock, which tells time in consecutive hours from midnight to midnight.

Take another look at the clock face above. That's the Global Clock. Our Army and Navy use it. Our Merchant Marine and Weather Bureau use it. So do many other countries throughout the world.

The airline pilots, now flying military cargo to far battle fronts can tell you that it would be nearly impossible to operate fast schedules across the time belts of the world on our present 12-hour system.

True, the airplane will speed Victory and Victory will speed the airplane . . . but, from both will come a new kind of unhurried speed . . . and a new clock . . . TOMORROW, when all's well again.

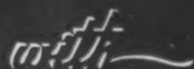
*\*Western Air Lines announces the first 24-hour Global Clock timetable to be used by a domestic airline. Many of its air-minded passengers such as military officials, already use this international system of telling time.*



General Offices: Lockheed Air Terminal, Burbank, Calif.



# OVER A MILLION MILES A DAY...



## JACOBS AIRCRAFT *Engines*

Each day the future Bomber Pilots of the United Nations are flying Jacobs-powered twin-engine Trainers more than 1,000,000 miles, from United States and Canadian training fields, acquiring the skill and precision that will devastate the factories and ship-yards, the railroads and power lines of the Axis—and that soon will blast the way for our Armies to Berlin and Tokyo.

Day-in and day-out these sturdy engines are ready to go—from dawn to dusk and into the night—on their essential mission of qualifying the Bomber Pilots for their job of freeing the World from the ruthless selfishness of Hitler and Tojo.

When this job has been accomplished, these sturdy engines will carry millions of free people safely and economically on missions of commerce, of mercy and of pleasure.

JACOBS AIRCRAFT ENGINE CO.  
POTTSTOWN • PENNSYLVANIA • U. S. A.

# International Operation to Be Complex

## Stations' Supply, Maintenance and Personnel Analyzed

By E. J. FOLEY

**L**ONG range operation, or more specifically international operation, complicates the normal problems of air transportation and introduces new ones in every phase of the work.

The solution of many of these rests in the aircraft to be used; accordingly, our problems must exert an influence



Foley

upon aircraft design. Ignoring the obvious prerequisites of operation — appropriate and adequate landing areas and fuel stocks — will let us get on immediately into the consideration of the specific questions regarding supply, maintenance and personnel; operations, communications, traf-

fic and even administration.

For the purpose of so short a discussion, we can best omit any reference to the main base or "home office" and concentrate our thinking upon "line operations." By such omission we don't imply that main base personnel, facilities and functions are constant for either type operation. Rather, we wish to confine ourselves to a segment of the overall picture small enough to permit a thorough analysis.

### Supply Problem

Taking the problems in the random order listed above, our first subject becomes that of supply. The importance of this problem defies comprehension until it has actually been experienced. By supply we mean the maintenance of suitable stocks at each line station of tools and equipment; spare parts for aircraft and components; aircraft supplies such as fluids, etc.; and so on even to such staples as food at certain locations.

Within the continental limits of the United States, where transportation facilities are superadequate in normal times, this problem becomes a bagatelle. But expand our concept to global proportions where surface transportation between two of our ports is a matter of weeks (and, at that, is not the only time-consuming factor in the picture) and the significance of this problem begins to assume its real proportions. Under certain emergency conditions, it is apparent that our air transportation may be no faster than the surface transportation bringing the critical part.

This single point prompts a momentary digression to the subject of international transport aircraft design. We fear that the eminently desirable goal of stocking each station adequately so as never to

be faced with an emergency air shipment, is attainable only in the far distant future if at all. Further, the cabin pressurization coming into its ascendancy makes it costly in money and weight to provide a large cargo hatch in a passenger transport aircraft.

The sum of these two statements may be an economic justification for the long range operator to maintain a small fleet of cargo aircraft capable of carrying the largest determinable required part for the transport fleet. The advantages of having a few such craft for interstation liaison of materials and men would be many; whether they would cumulatively be sufficient to offset the cost is a factor which must be determined by the individual operator.

### Regulations Important

Reverting to the topic proper, we repeat that shipping time, dock-to-dock or block-to-block, is not the only time-consuming element. Again, intra-national operations' simplicity must be forgotten. National boundaries, duties, customs bonding, clearance and similar elements become vital adjuncts to our supply processes. Inadequate comprehension of the specific regulations of the many nations and obstructed cooperation and liaison with the various foreign agencies can be as consequential handicaps as sheer unavailability of the part or item needed.

Equally close liaison must be maintained among the several departments of the operating organization involved in the supply problem. Otherwise, promiscuous offloading through failure to realize the importance of the supply function can beget a most extravagant chain of errors. This potential expense prompts us to accent the importance of an adequate, straight-line, functional technique in

shipping supplies. The proper amount of practical paperwork effort is as much of a necessity in business as the overdoing of this paperwork is a handicap.

Related also to our supply problem is the maintenance of personnel morale. It is difficult to imagine the destructive effect upon esprit de corps that results from slack in the supply line. The men assigned to foreign duty are away from so many of the things that made up their normal life that to treat their needs and requests casually, if at all, or to maladminister the supply function is to "orphan" them organizationally and to jeopardize your entire operation.

As a final comment on supply, we wish to mention "spares," the supplies which may be regularly carried on board the aircraft. Upon initiation of a new route (possibly before all the ports of call have received the full complement of stock) it may be necessary to carry a considerable quantity of miscellaneous items in this fashion. Subsequently, the "spares" should be reduced to an absolute minimum. As a determinant for this minimum, we can say that the spares carried on board should be made up only of those items that can be used in flight. If we continue to carry items over and above those in this category, we are saving a few dollars which would be spent to stock stations, but at the same time we are cutting into our payload possibly to the point where we are in time losing twice as much money.

### Aircraft Maintenance

Maintenance of the aircraft is our second consideration. The impracticability of allocating maintenance facilities all over the world with a lavish hand is the crux of this phase of our operation. It becomes necessary for us to analyze our routes and possibly establish three or four ratings for the stations. Each rating should imply a certain complement of facilities to be installed and assigned at the station so rated. (In passing we might say that the same technique of "rating" can be made the basis for our supply-quantity determination). For illustrative purposes, we might propose some such designation as "C" station, fueling stop; "B" station, intermediate station; "A", route terminal.

A natural result of our international, long-range operation is the extension of time between "heavy" services. This extension may have to be made gradually as we accumulate significant service experience and also, it requires an accenting of the thoroughness and detail applied to the minor services. However, it is a logical and essential trend.

The greatest single contribution toward the achievement of this end is improvement in the aircraft design. The maximum in desirability would be represented by a better airplane, built to stay better longer. If this is idealism, then let us compromise on the next best benefit—a good airplane embodying lots of accessibility. We think it true that there are many imperfections which need not be attended

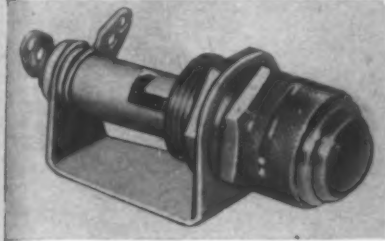


**Snapvent:** Invented and manufactured by Burton B. Simcox of 521 W. Cumberland, Nashville, Tenn., this Snapvent utilizes Lumarith, the transparent plastic product of Celanese Celluloid Corporation. Formerly made of aluminum, the Snapvent snaps into a hole in window or cowl to provide cabin ventilation without engine noise or draft. It is said that minimum weight, no impairment of vision, ease of cleaning and low cost are significant advantages accruing from the use of the plastic in this aircraft application.

(Turn to page 71)

## New Pilot Light

The Gothard Manufacturing Co., 1300 N. 9th St., Springfield, Ill., is now manufacturing a new, shutter-type Pilot Light, particularly suited to aircraft and similar applications where varying of light intensities is desirable under changing conditions. These lights provide a possible gradation of light from bright through intermediate glows to total darkness with



a 90 degree rotation of the shutters. Known as the Gothard Model 430 (with faceted jewel) and Model 431 (with plain jewel) these lights are available in red, green, amber, blue and opal, also with polarized lens.

## Econ-o-can Cover

The C3 Econ-o-can cover and can, one of the latest developments of the Master Manufacturing Co., 4715 Damen Ave., Chicago, is said to be the answer to procurement difficulties in spray gun equipment. The C3 fits most standard quart friction-top paint cans as well as competitive spray guns.

## Sturtevant Announces New Spring Tester

The P. A. Sturtevant Co., Addison, Ill., manufacturers of torque wrenches, announce a new tool for testing springs up to 2½" diameter and 7" length in compression. Making it possible to measure spring pressure at any predetermined length, the unit permits matching of sets of springs.

In design and principle, the Sturtevant Spring Tester differs radically from previous testers, according to the manufacturer, in the following ways: (1) it is operated with a standard torque wrench, the wrench serving as both the operating lever and the measuring element; (2) in this tester, a sound device indicates compression to the test point eliminating the necessity for dial-watching; (3) compression is against a rigid platform to prevent any accumulated errors in reading; being a lever-operated device, adaptable to any bench by bolting and being inexpensive, it is said to permit adequate distribution throughout the shops.

## Adel Cellophane Bags

This set of special cellophane bags for packaging extra and replacement parts for the company's line of aircraft hydraulic and anti-icing system units, won for Adel Precision Products Corp., Burbank, Cal., a prize in the All-America Packaging Contest sponsored by *Modern Packaging* magazine. The bags are made in seven different sizes. The design for them was done by George Tharratt, Adel's Chief Engineer; production and printing by Milprint, Inc.

## Rubber Gasket

The creation of a sponge rubber gasket covered with a smooth coating of natural rubber or Ameripol synthetic rubber by the extrusion process is announced by The B. F. Goodrich Co., Akron, O.

In the process, sponge rubber filler used is molded in slab form, slit into strips and fed through a special extruding machine to obtain the smooth covering which may vary in thickness according to the customer's specifications. It is available in



round, square and rectangular shapes and is most practical at present in dimensions not smaller than ¼" nor larger than 1½". Maximum production length is 12 feet but splices provide any length with barely detectable connections. Where necessary, an attaching lip can be provided.

## PIONEER P3-B PARACHUTE

UNIVERSALLY RECOGNIZED  
AND OFFICIALLY ACCEPTED  
AS STANDARD...

The P3-B is compact and snug fitting; is 20% lighter and occupies 50% less seating space, without sacrifice of strength. Yet, the canopy is the full 24 foot standard size. The P3-B is the achievement of J. Floyd Smith, inventor of the free type parachute; it is the culmination of years of research, experience and engineering. The thinness of the P3-B pack makes it especially valuable to fighting pilots, gunners, navigators and bombardiers who must necessarily fit into cramped spaces.



PILOT CHUTE IN PACK ..... IN ACTION

One of the important elements of the P3-B is the new pilot chute attached to the apex of the main canopy. It is foot-proof and foul-proof. No parts to break, no exposed springs to pinch or bind silk. No ribs to poke through or hook under the main canopy skirt, or jam or bind pack covers. In the pack — folds water-tight, sets — springs into full size with instant, positive, powerful action.

PIONEER PARACHUTE COMPANY, INC.

MANCHESTER, CONNECTICUT, U. S. A.

CABLE ADDRESS: PIPAR, Manchester, Conn., U. S. A.

TELEPHONE, Manchester 2157



# Grand Rapids Group Enters Airplane Production Field

**T**HE furniture industry made a bid for a place in wartime and postwar airplane manufacture last fortnight when Grand Rapids Industries, Inc., acquired patent licenses, finished planes and parts inventories from General Aircraft Corp., South Lowell, Mass., and announced it will proceed to manufacture General's "Skyfarer" plane. Grand Rapids Industries is located in Grand Rapids, Mich., advertised for many years as "the furniture capital of the world."

The Grand Rapids concern, a corporation formed by 15 furniture makers and which already has had a taste of airplane and glider parts productions, "has its eye on the postwar civilian markets," says a company announcement.

"Prior to purchase of the 'Skyfarer' manufacturing rights, Grand Rapids Industries, Inc., produced precision-crafted wood assemblies for troop-carrying gliders, B29 bombers and L5 liaison planes for the Timm Aircraft Corporation, Stinson, General Aircraft, Babcock Aircraft Corporation, Gibson Division and Robertson Aircraft Company," the announcement continues.

The "Skyfarer" plane was designed by Professor Otto C. Koppen of the Massachusetts Institute of Technology. Its construction embodies a simplified single unit control system, tricycle landing gear mounted in hydraulic shock-absorbing struts, wing flaps and other patented aerodynamic principles.

"The Civil Air Administration has pronounced it 'incapable of spinning.' It is declared to be unusually simple to fly and very economical of operation." Grand



**'Skyfarer':** This is the name of the plane formerly manufactured by General Aircraft Corp., which now will be produced by Grand Rapids Industries. Frederick H. Mueller, head of company, is shown with plane.

Rapids Industries, Inc., was organized in 1942 and since then has turned out millions of dollars worth of wooden parts for the 15 place CG 4A troop-carrying glider and parts for the Stinson Sentinel and the B29 bomber. The corporation will erect a plant at the Grand Rapids airport where parts made in the factories of the various members will be assembled.

Furniture names behind Grand Rapids Industries' aircraft production include: Berkey, Brower, Hekman, Imperial, Johnson, Kindel, Mueller, Murray, Williams-Kimp, Valley City, Johnson-Handley-Johnson, Widdicomb Furniture Company, Grand Rapids Chair Company, and Nichols & Cox Lumber Company.

Frederick H. Mueller, president, is a partner and general manager in the Mueller Furniture Company. He is a past president of the National Association of Furniture Manufacturers. Charles M. Kindel, the vice president in charge of production, is production manager of the Kindel Furniture Company and a past president of the Grand Rapids Furniture Manufacturers association. Both men are pilots.

## Boeing B-17, Flying School, Used by AAF

Use of a Boeing B-17 Flying Fortress as a flying schoolroom in specialized pilot training, "for purposes of demonstration at the various training bases within the (U. S. AAF) Second Air Force," has been disclosed by Boeing Aircraft Co., Seattle, Wash.

Capt. S. O. Davis of the Second Air Force and R. Steve Sasnett of Boeing head the staff of instructors which goes with the aerial schoolhouse on its visits to the various training centers. By this method it is possible, says Boeing, to conduct specialized training in the handling of the B-17 and in learning its peculiar performance habits.

Said to have been original with the late Edmund T. "Eddie" Allen, Boeing's famous test pilot, training is so far confined largely to advanced heavy bomber students.

## Martin Sets Records

At the end of April Baltimore and Nebraska plants of Glenn L. Martin Co. set new records, company claims. They were: (1) The two plants delivered more planes than at any other time in their history. (2) In the first four months of the year production in the two plants was twice that for all of 1941. (3) By the end of April production in these two plants equaled that of the first eight months of 1942.

## Bell Adapter Used On Many Planes

Use of the Bell Machine Gun Adapter, a recoil absorption device for the .50 calibre aircraft machine gun, by gunners on U. S., British and other United Nations' planes, has been revealed by Bell Aircraft Corp., Buffalo, N. Y.

The adapter is described as "a portable, light-weight cradle consisting of two steel tubes and a hydraulic absorption unit . . . (which) adds less than an inch to the overall dimensions of a .50 calibre gun, and but three lbs. to the weight when conventionally mounted." It was developed by Bell engineers and ordnance experts of the U. S. AAF and of the Navy Bureau of Ordnance "nearly five years ago."

In constant use on Flying Fortresses, Liberators, Mitchell and Marauder bombers of the Army, and Navy Douglas dive bombers, torpedo planes, and Consolidated and Martin patrol bombers, the adapter, says Bell, "enables the gunner to train his sights on the target and keep them there." It also has the advantage of reducing the fatigue strain on the gunner and the strength of structure requirements for mounting the gun in the plane.

A .30 calibre gun mount, which uses springs, air cushion and friction discs instead of a hydraulic unit has also been developed, according to Bell, and both .50 and .30 calibre twin gun mounts are being built in addition to adapters for single guns.



**Bell Product:** Army waist gunner in a Martin B-26 Marauder bomber lines up a target with his .50 calibre machine gun equipped with the Bell recoil damping adapter.



**Easy to Drive:** Single control unit of the "Skyfarer" makes it easier to drive than your automobile, says Frederick H. Mueller, president of Grand Rapids Industries, shown at the controls of plane which the company will produce.

Inside this package ↓ there's something important...



... the KLYSTRON\* tube  
developed by Sperry

UNTIL the war is over, there are very few things that we can tell you about the KLYSTRON\* tube.

We can say that it is a vital factor in electronics, that it was developed by the Sperry Gyroscope Company following initial research at Stanford University.

Right now, the KLYSTRON\* is making very important contributions to essential military equipment. And other advances in this field have been made—after the war is over, some of these will undoubtedly contribute to the security and comfort of a world at peace.

**SPERRY**  
**GYROSCOPE COMPANY**  
BROOKLYN, NEW YORK  
DIVISION OF THE SPERRY CORPORATION

\*The names KLYSTRON and RHUMBATRON were officially registered at the U. S. Patent Office on October 3, 1939, by Sperry Gyroscope Company, Inc. KLYSTRON is registration No. 371650. RHUMBATRON is registration No. 371651.

## Douglas Pioneers in Flying Food From Producers To Its Kitchens

Tons of lamb, beef and hog carcasses and other food supplies by air to Santa Monica, thence by air again to company eating places in other locations where shortages exist, is the ultra-streamlined method used by J. L. "Steve" Stevenson, director of welfare at Douglas Aircraft Co., Inc., to meet shortages and rationing.

Stevenson, with Newton G. Collins, E. B. Merritt and John V. Thompson, his assistants, employs this among many results-getting devices to insure that the 50 cafeterias and canteens operated by Douglas will have ample servings for its 3,000,000 meals a month. Company claims it is the first to use airplanes for food delivery.

Once, during a period of acute shortages, president Donald W. Douglas flew back to Santa Monica with the extra seats on the company plane piled high with beef carcasses and the aisles packed with tubs of butter.

Not so long ago, a jobber informed Stevenson by 'phone that two cars of potatoes out of Cleveland were missing. As soon as welfare's staff of expeditors could be rounded up by the long distance operator, "Steve" had orders and a \$50 bonus for the one who could get those potatoes, since finders were keepers. A spotter out of Tulsa reached La Junta, Col., by Mid-Continent plane. In a drive-up-self car he found the two carloads four miles out of town on a siding. Three days later the 60,000 lbs. of spuds were being unloaded in Santa Monica.

About 30,000 lbs. of the 154,472 lbs. of food required weekly is flown to its various plants, Douglas says. This is particularly advantageous for meats and other high perishables, since no refrigeration is necessary, as the planes usually fly at 12,000 feet or higher. "Cargo ships dispatched to Oklahoma or Chicago for meat take out oranges, grapefruit and fresh vegetables from the coast."

Stevenson claims that only the U. S. Government is a bigger food buyer than Douglas. Assistants fan out into the trucking sections of California, often buying crops on the spot. Forty acres of cabbage, whose owner had despaired of a profitable market, were acquired by one hunt, which ended by the agent's handing the farmer a lump-sum check on the spot. Newest development in this technique is to buy promising crops scarcely



**Into the Plane:** From refrigerator to cargo plane in 10 minutes by fast truck, is the schedule of this meat destined for the tables of aircraft workers at various Douglas plants.

out of the ground and to contract with truck gardeners for certain plantings of Welfare's own designation for staggered maturity dates.

Some statistics will round out the picture: As of late April, Douglas workers were eating monthly 155 full beefs, 52 lambs, 216 hogs, 21,000 lbs. of veal, 14,533 lbs. of ham, a ton of bacon, 3,465 lbs. of butter, 4,256 lbs. of poultry and nearly 10,000 lbs. of fish—and the volume goes up. Every 24 hours the company's own bakers turn out 11,000 doughnuts. Serving of 15,000 sandwiches daily occupies about 100 girls part time.

At each plant, Stevenson has a general supervisor, one chief chef for each shift at every plant and location, and about 50 cooks who specialize on roasts, soup, etc., besides many helpers. One hundred people man the dishwashing equipment.

Shortly before rationing started, "Steve" found that the number of customers in his establishments had jumped 25% over any normal expectation. Investigation found that workers, because of difficulties in shopping, temporary shortages, crowding, etc., were reporting early so they could eat breakfast in the plant cafeteria, and were staying late so they could likewise eat dinner. Some even brought their children.

Resultant need for expanding facilities ran into priorities. As one way out, paper cups, dishes and spoons were ordered, to a total of \$155,000. It was found most difficult to obtain dishwashing equipment.

Maintaining of the basic wage scale for food workers has meant a yearly payroll of about \$3,000,000 for Douglas, and Stevenson pays workers a minimum of 75c an hour after the third month of employment, plus time and half for eight hours above the 40 hour week and double time for a seventh consecutive day.

### 'Taxi Trainer' Developed

A "taxi trainer" has been developed by officials of the AAF Technical Training Command School at Camp Curtissair, Buffalo, N. Y., for the instruction of ground crew men in handling new P-40 fighters. The trainer was built from salvaged P-40 parts. Since the Curtiss Warhawk is a single-place ship, a special rear cockpit was built, with a duplicate set of controls, to accommodate fledgling mechanics. An inter-cockpit communications system was installed to allow conversation between instructor and student. The trainer is said to save valuable time in teaching Army ground crew men the proper method of taxiing powerful fighter planes with perfect safety as mechanics perform a large part of ground piloting in pre-flight testing, repair and modification. With its unusual tricycle landing gear, consisting of an added forward nose wheel built especially for this purpose, the trainer cannot be nosed over by too sudden a pressure of its brakes by an inexperienced student.

### Bendix Automatic Radio SOS Device Successful

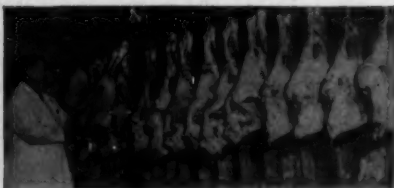
A precision emergency radio transmitter which automatically sends out SOS signals has been developed by Bendix Aviation, Ltd., North Hollywood, Cal. Carried as emergency equipment by crews on ocean-going missions, the waterproof transmitter is capable of sending an automatic SOS over an effective range of 100,000 square miles.

No experience or radio knowledge is necessary to use the equipment, the company claims. Rotation of a hand crank operates a keying device which automatically spells out the SOS and also produces the necessary power through a generator. The voltage output of the generator, because of a regulator, remains constant, despite wide variations in cranking speed.

Controls on the front panel of the transmitter enable the user, if desired, to operate the set manually with a key for sending messages in code. A light is attached for use in signaling rescue parties or for illumination. Antenna is provided through a collapsible kite and a balloon. The balloon is lifted with hydrogen gas, created by immersing a simple generator in the water.



**3,000,000 Meals:** Three million meals a month are served in Douglas cafeterias like this one, despite food shortages. Using its own planes, the company goes out and gets meats, vegetables and fruits at the source—moving much of it by air transport.



**Moved by Air:** Speed of air travel combines with the efforts of food-expeditors to keep the refrigerators at Douglas Aircraft Co. adequately stocked with meats to feed its war workers. Tons of beef, lamb and pork are routed by air to various Douglas plant kitchens.



# Martin B-26 Becomes All-Purpose War Plane, AAF Captains Declare

**M**ARTIN Marauder B-26 medium bombers have become virtually all-purpose war planes with a notable list of operations ranging from the extreme cold of Alaska to the tropical heat of New Guinea—and besides their basic job of bombing are being used as torpedo planes, ground strafers and fighters.

This was the story told by two AAF captains to employees of the Glenn L. Martin Co., Baltimore, Md., when recently they visited the Martin plant along with two of the Marauders recently returned from the war zones and which between them had sunk 11 Japanese ships ranging from heavy cruisers to submarines.

Martin employees turned out in six groups during the day to see the two Marauders, now retired from combat service and in use as trainers at MacDill Field, Tampa, Fla. These were the 9th and 12th B-26s turned out at Baltimore. As a climax to each show, the employees saw the Martin Mars—world's largest flying boat—in flight over the plant. High Army and Navy officials and members of the National Inventors Council visited the Martin plant for the occasion.

Citing the B-26 performance record on another front, a letter was made public from Gen. Henry H. Arnold, Commanding General of the AAF, reporting that one wing of Marauders alone destroyed in aerial fights 37 of the Nazis' best fighters while losing only 16 B-26s—a ratio of 2.31 to one. This wing was commanded by Col. Carlyle H. Ridenour, formerly resident army inspector at the Baltimore plant.

Capt. Edgar Graham Gammon, Jr., of Hampden City, Va., who had flown B-26s for a year in the New Guinea theatre, and Capt. Kenneth C. Dempster of Oakland, Cal., who had flown Marauders for two years in the Alaskan theater, appeared at Baltimore with crews of the two planes. At a press conference they described many of the B-26 feats.

## 200 Holes

Capt. Gammon, who was awarded the silver star for taking his ship off the ground at Port Moresby under a hail of enemy bombs, related how his plane got into the air on cold motors. It landed two and one-half hours later with 200 shrapnel holes in it. The automatic controls for bombs were shot out; one propeller control was destroyed; the right wheel and tire were out of commission; the tail assembly had 43 holes in it; glass was shattered on the co-pilot's side, and holes ranging in size from a fingertip to a foot were stretched from the props to the trim tabs. But the plane was soon repaired and went on for long service until months later at the end of a lengthy mission, out of gas, it crash landed.

His bombardment squadron was the first to reach New Guinea and he participated in 39 combat missions in Marauders. After the fourth mission, not one pilot was killed in the bombardment group and they shot down Jap planes in a ratio of 18 to 1 Marauders lost.

"The power turret did the job," Capt. Gammon said. "It is one of the greatest instruments of the war." This turret is built by the Martin Co.

His group had 90 confirmed enemy planes shot down, compared to a group loss of six Marauders, in addition to its many bombing raids on shipping and military installations. On July 4 a Zero rammed one of the Marauders, but that was believed to have been an accident rather than a "suicide" crash. From then until Jan. 5 the group flew without a casualty.

In answer to questions regarding reports that the B-26 is "almost too hot to handle," Capt. Gammon said that he had landed and stopped the Marauder in 2,300 feet, and that with a full bomb load he had left the ground in 3,000 feet.

He asserted that since last September the allies have been steadily gaining air superiority in the Southwest Pacific theater commanded by General MacArthur. He said that the quality of Jap pilots has been "off" since last summer, that they "are not as determined and fierce" as at first. Japanese planes are light and not heavily armored, he said, and American P-38s and Grummans make mince meat of them.

During the first months of the Southwest Pacific warfare, he said, landing strips were "primitive," usually of dirt or gravel, but many improvements have been made at Allied bases. Steel landing mats are being used extensively, but call for the utmost care in landing, he said.

He said that Japanese aerial gunners "miss sometimes when we don't see how they can," but that the bombers have done good work. Japanese anti-aircraft fire he rated as "very poor to good," although the Naval ack-ack is more efficient.

He said the B-26 fire power has been increased and that pilots swear by it.



**Victorious Marauder:** The Martin Marauder B-26 shown here is one of two which came back to the Glenn L. Martin plant at Baltimore last week from the war fronts. Between them they had sunk 11 Jap ships. Capt. Edgar Graham Gammon, Jr., points to silhouettes of six of the victims as the B-26 crew looks on. The two Marauders, now used as trainers at MacDill Field, were flown to Baltimore for a special show given the Martin employees. Crew members shown are Lt. Dean B. Snow, Staff Sgt. Leslie H. Earles and Staff Sgt. R. L. Sanders.

## Air References Published

An Aeronautical Reference Library, a basic list of about 800 titles for an aeronautical library, has been announced by Special Libraries Association, 31 East 10th St., New York, N. Y. Ranging in subjects from aerodynamics, airplane identification, metallurgy and radio, with adequate bibliographical information, this 32 page printed booklet, with blue heavy stock binding, is priced at \$1.10, including postage and handling.

AAF precision bombing is carried on at medium altitudes from 4,000 to 10,000 feet and almost all in daylight, he said.

Capt. Gammon said that up until now one of the chief difficulties has been in getting spare parts, and that wrecked or damaged planes often had to be relied upon for the spares. On his own B-26, he said, the horizontal stabilizer had been replaced twice; it was on its third set of motors; had had five propellers, changed wheels several times, rudders twice, and was patched in many places.

"But there's no other plane for me," he concluded. "I lived in it, slept in it, fought in it and nearly died in it. It can't be beaten in design, sensitivity and controls."

## Only 2 Lost

Capt. Dempster, winner of the Air Medal, said that from January until December of 1942 only two B-26s were lost in the Alaskan theater, one by ack-ack fire at Kiska and one by destroyer AA fire. The Marauders there had a perfect score as far as action with the enemy was concerned. Every Japanese ship sighted by them was sunk, beached or severely damaged. The B-26s were used as long-range fighters in the occupation of the Andreanof Island group, he said.

Capt. Dempster said he felt we now definitely have air superiority in the Alaskan theater and the Aleutians. He said the Marauder missions are carried out under the perpetual overcast and bombing is done at about 1,000 feet, with time fuses being used.

He revealed that Japanese in the Aleutians have been using some kind of airplane detection which he said apparently has some of the characteristics of our radar, though much inferior. AAF fliers have found a way to avoid this detection by flying low and keeping ridges between themselves and the detector installation. He said that a pilot shot down could not live more than 45 minutes in the cold waters of the Aleutian area.

The Marauder is the newest of the six types of Martin planes which have seen action in the present war. It is of mid-wing monoplane design. Construction is all-metal monocoque. Landing gear is a retractable tricycle type. The power plants consist of two Pratt & Whitney 18 cylinder engines rated at 2000 hp each. The propellers are Curtiss automatic electric, four-bladed, full feathering with diameters of 13 feet 6 inches. Besides its power turrets and heavy fire power, it has self-sealing fuel tanks and protective armor.

The other Martin bombers in action in the war are the old B-10 used by the Dutch; the 167 "Maryland" and 187 "Baltimore" medium bombers of the British, and the Navy Patrol bombers, the PBM-1 and PBM-3 "Mariner" used in anti-submarine patrol and for transport and cargo duty.

## Bell's Bomber Plant to Be 'Another Willow Run'

The new Georgia plant of Bell Aircraft Corp., Buffalo, N. Y., will be in "partial production" this fall and "in good heavy production by the spring of 1944," Charles E. Wilson, executive vice-chairman of WPB, said at a recent press conference.

Wilson referred to this project as "another Willow Run in size," adding that he believed its floor space would be "around four and a half million square feet." He said the plant will assemble planes and manufacture a large number of parts, but would not comment on details of the kind of plane which will be assembled there, other than to refer to it as a "super bomber."

## Richard Mitchell Named Manager of Consairway

A 33-year-old former pilot has been appointed manager of the Consairway Division, Consolidated Vultee Aircraft Corp. He is Richard S. Mitchell, veteran of 16 years flying, and former flight supervisor and operational manager for Consairway.

Mitchell, a native of Woodstock, Ill., began his transport flying in 1928 when he joined Catalina Airways as a co-pilot. In 1929 he was hired by Curtiss - Wright to demonstrate its Ireland flying boats. Later that year he became associated with Air Ferries, San Francisco. He was private pilot for William Randolph Hearst, the well known newspaper



Mitchell

publisher, for two years, and in 1939 went to United Air Lines for a two-year stay. Prior to joining Consolidated Vultee, Mitchell was associated for several months with American Export Airlines which, at the time, was conducting survey flights in South America.

## Los Angeles Area Firms Face Child Care Problem

With closing of public schools late in June, Los Angeles and the surrounding area is faced with a major problem in caring for children between ages of five to 12 years whose mothers are now engaged in war industry.

H. W. McCanlies, chairman of housing and transportation section, War Manpower Commission in that city, reveals that approximately 52,000 children fall into this category. He estimated that 213,533 mothers are in war plants and of that number, 189,307 have children between ages of two to 16, while 52,000 fall into critical category between five and 12 years.

Present program for child care centers is caring for 21,000, mostly of pre-school age.

## Harrison Brand Chosen As General Manager of Aeronautical Chamber

Unanimous selection of Harrison Brand, Jr., as general manager of the Aeronautical Chamber of Commerce of America, Inc., has been announced by the Board of Governors. Brand assumed his duties on June 1 with the resignation of Irving



Brand

James P. Murray.

Announcement also has been made that Palmer Hewlett, Washington representative of Consolidated Aircraft Corp. has been appointed to the Board of Governors of the Chamber, succeeding the late John K. Montgomery who also represented Consolidated on the board.

Albert W. Clayton, formerly assistant manager of the information department, has become manager, succeeding C. Scott Hershey, recently resigned.

Col. Brand was graduated from West Point in 1914 and his military career included seven months in the Army Engineers school, terminated by World War service, and a course in the Command and General Staff School. Since 1920 he has been a lieutenant colonel and colonel in the Engineers Corps, Reserve.

He studied accounting and business law, and from 1920 to 1922 had a law office in Los Angeles. He served two years in the industrial department of Sanderson & Porter, New York engineers, conducted a federal tax practice in Washington from 1923 to 1925, served two years on the District of Columbia Public Utilities Commission, practiced law in Washington from 1929 to 1937. He served as chief of the supply section, operations division, of WPA in New York, and as an assistant chief, engineering, in 1937-38.

He was executive secretary of the Washington Board of Trade from December, 1938, until February, 1941, when he went with the Aeronautical Chamber. He was elected vice president and treasurer in 1942 and has been a key figure in management of the Chamber.

## Dr. Hambrook to Direct Higgins Training Setup

Dr. Robert W. Hambrook, formerly associated with the Federal Office of Education, Washington, D. C., is reported to have become director of training for Higgins Aircraft, Inc., New Orleans, La. Much of the skill which present-day aircraft manufacturers exhibit is attributed to results of Dr. Hambrook's four month tour of British plants in 1940, and instruction courses he subsequently mapped out for workers.

## Precision Products, Inc. Is Organized in Cleveland

Precision Products, Inc., has been formed in Cleveland, O., for "the manufacture of precision tools, dies, small aircraft parts and the handling of accurately tooled small jobs," to be engaged for the present 100% in sub-contracting of war production.

W. L. Davis, a former vice president and general manager of Romec Pump Co., Elyria, O., is president of the new concern. W. A. Gerber is treasurer, and E. D. McCurdy, secretary.

Described as having "entirely new equipment," the firm's plant, formerly operated by an engineering company, was said to be expanding its sub-contracting work on small aircraft parts and other jobs.

## British Manufacturer Touring U.S. West Coast

Oliver E. Simmonds, managing director of Simmonds Aerocessories, Ltd., English manufacturers, is visiting the industry in the United States, particularly the West Coast, according to Simmonds Aerocessories, Inc., New York, N. Y.

Shortly before leaving England, Simmonds was appointed chairman of the newly-formed Joint Air Transport Committee of the Association of British

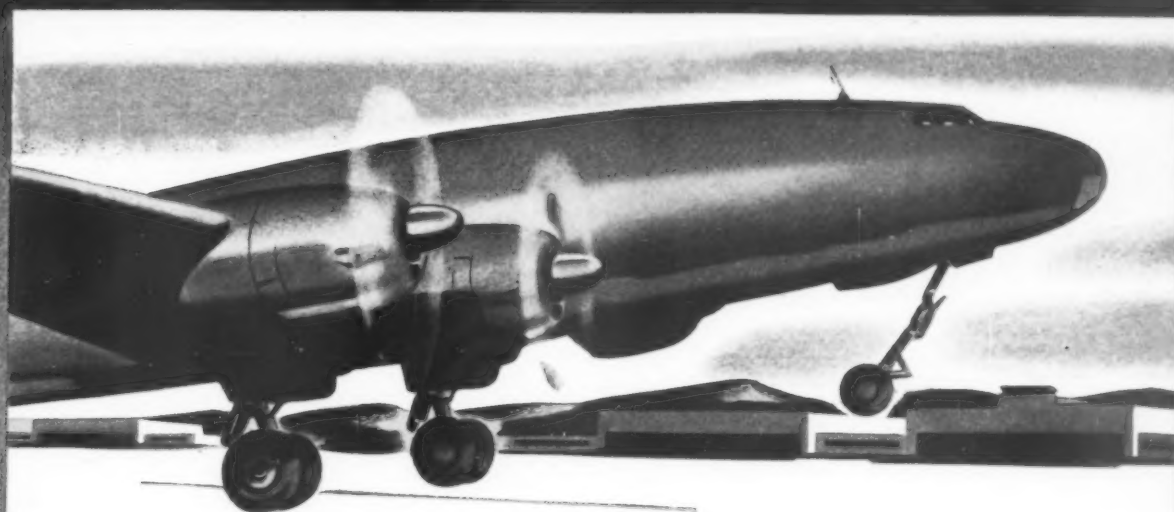
Chambers of Commerce, The Federation of British Industries and the London Chamber of Commerce which has been established "so that British commerce, trade and industry may speak with a united voice on the subject of air transport." He has been especially interested in postwar international commercial aviation plans.

## Centrifugal Casting Saves Time on Engine Cylinders

Application of centrifugal casting techniques instead of drop forging in the manufacture of aircraft engine cylinder barrels "saves 35 lbs. of high-quality steel in each barrel and the equipment required costs less than one-third that needed for forgings," claims Ford Motor Co., Dearborn, Mich., which makes cylinders for the Pratt and Whitney engine.

This new method, says the company, is so successful that it has "already made cylinders for other aircraft engines and is teaching other foundries how to cast barrels." Saving of metal, due to difference in material discarded in the two processes, "saves at least 15 minutes machining time on each barrel." Casting is done on a rotating mold, which depends on centrifugal force to whirl molten metal to the outside of the mold.

# LESS PAINT . . . MORE PAYLOAD



*with Crusader one coat  
non-specular enamel . . .*

**I**T is no longer necessary to pile paint on aircraft constructed of stainless steel or anodized aluminum. Why? Because, Crusader non-specular enamels possess superior characteristics of adhesion, durability, flexibility and toughness in a one-coat application.

Besides reducing dead weight, Crusader enamels offer many production advantages. For example, they may be applied directly to bare metal or over Zinc Chromate Primer with equally satisfactory results.

Crusader one-coat enamels are speed synthetics comparable to lacquer in drying time but providing greater resistance to aromatic fuels, brake fluids, de-icing and cleaning solutions. They surpass exacting military requirements for texture and non-specular properties. Write for full particulars. Remember, Crusader enamels are engineered specifically for aircraft constructed of stainless steel or anodized aluminum.

**ROXALIN** *Flexible* **FINISHES**  
INCORPORATED  
ELIZABETH • NEW JERSEY



WATCH ROXALIN IN AVIATION





**BENDIX AVIATION, LTD.  
HYDRAULIC  
CONTROLS**

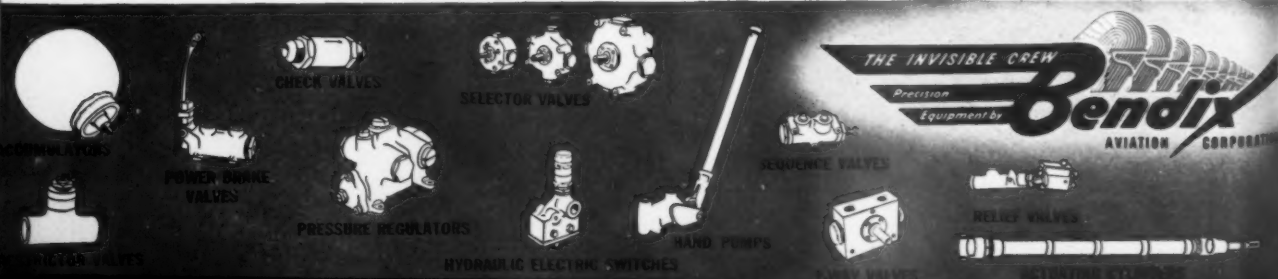
## CLOCKWORK

Around the clock U. S. Army Air Forces B-24's are pounding the Axis lines and ships and factories with tons of high explosives.

As part of their Invisible Crew, Bendix hydraulic controls are in service aboard these Liberators, as they are on virtually every other U. S. fighting plane now in production.

Bendix hydraulic equipment is operating bomb doors, landing gears and other vital units...rendering precision service that pilots depend on in all kinds of weather...always. Bendix Aviation, Ltd., North Hollywood, California.

The Bendix 403247 hydraulic hand pump, approved as an Army-Navy Aeronautical standard AN6201, and used on many planes, features a plastic piston rod bearing and piston head—increasing packing life 50%. Bendix exclusive plastic poppets also are used in the check valves—they seat directly in the aluminum alloy body, entirely eliminating inserted seats. Needle roller bearings at all rotating joints assure lifetime service. Maintenance, too, has been simplified, as all packings, nuts and bolts are AN standard parts.



Co  
Ad  
in c  
the  
cides  
Jap  
night  
"O  
alcar  
which  
job,"  
Th  
"inte  
speed  
anno  
tion  
are t  
fight  
in o  
sairs  
shot  
Jap  
Ad  
the C  
mover  
The  
seat,  
monop  
riers  
landin  
Win  
R-4 i  
engine  
2,000  
Hydro  
class;  
ing, o  
The  
remar  
on a c  
est pl  
is pra  
or high

Roel  
Div  
AI  
Form  
been a

of the f  
partment  
Glenn  
manufac  
manager  
Roebli  
the indu  
Roebli  
change

A me

## Corsair Superior To Zero—Nimitz

Admiral Chester W. Nimitz, commander in chief of the U. S. Pacific Fleet, rates the Navy's Vought Corsair plane "decidedly superior" to all models of the Jap Zero, the Navy announced last fortnight.

"Our Navy and Marine pilots at Guadalcanal are enthusiastic about this plane, which so regularly turns out a first rate job," the admiral declared.

The plane is superior to the Zeros in "interception, maneuverability, climb, speed, firepower, and armor," the Navy announcement said. "Included in the action on which these conclusions are based are two engagements with mass Japanese fighter sweeps over the Russell Islands. In one of these—against 25 Zeros—Corsairs accounted for 15 or 16 enemy planes shot down by U. S. fighters. Two more Jap planes were listed as probables."

Admiral Nimitz expressed confidence in the Corsair's ability to follow any evasive movements of the Zero.

The Corsair is a single-engined, single seat, all metal, inverted gull low-wing monoplane, designed to operate from carriers or land bases. It has a retractable landing gear. Other facts:

Wing span, 41 feet; overall length, 33 ft.-4 in.; height (on ground) 16 ft.-1 in.; engine, Pratt & Whitney Double Wasp, 2,000 hp; propeller, Hamilton Standard Hydromatic, 3-bladed; speed, 400 mph class; range, over 1,500 mi.; service ceiling, over 35,000 ft.

The plane's designers believe its most remarkable feature is its ability to land on a carrier while being one of the fastest planes in the world. They claim it is practical as an interceptor, medium or high altitude fighter.



**Addresses Forum:** Harry Woodhead, president of Consolidated Vultee Aircraft Corp., recently addressed the Aviation Forum of the Los Angeles Chamber of Commerce on aviation problems, past, present and future. He is shown here (center) after his well-received talk, with Thomas Wolfe, left, vice president of Western Air Lines and chairman of the Forum, and Bill Henry, Los Angeles Times columnist and master of ceremonies.

### Wilson Joins Brewster

Brewster Aeronautical Corp., Long Island City, N. Y., has elected Ira S. Wilson vice president in charge of finance, company has announced. Wilson was formerly vice president of the Fleetwings Division of Kaiser Cargo, Inc., Bristol, Pa.

## New AWPC Manager In East Takes Post

Clyde M. Vandenburg has taken over his duties as new general manager of the Aircraft War Production Council, East Coast, Inc., following his appointment at a recent meeting of the council's directors and nine committees, presided over by J. Carlton Ward, Jr., president.

Vandenburg, formerly deputy director of the Office of War Information, retains a consultant's capacity with that agency, on a non-salaried basis, it was announced. Coming to Washington in January, 1942 with the old Office of Facts and Figures, Vandenburg later became chairman of the Interagency Production Information Committee.

Concurrently, president Ward announced an assistant manager would be appointed to be concerned with the problems of production and materials coordination. It is expected that the offices of the Council will be moved "within a few weeks" from 30 Rockefeller Plaza to the French Building in the Rockefeller Center group, New York City.

## Leading Aviation Stocks

### New York Stock Exchange

	Week Ending May 29				Week Ending June 5			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
American Airlines	2,900	68½	66¾	-2¾	1,700	69½	66¾	+2
Aviation Corp.	23,700	5½	5½	+ ¼	45,600	5½	5½	- ¼
Bell Aircraft	4,500	17½	17	- ¼	9,100	18½	17½	+1½
Bendix Aviation	8,500	39	37½	+ ½	7,300	38½	37½	- ¼
Boeing Airplane	8,000	19½	18½	+ ½	5,200	18½	18	- ½
Consolidated Vultee	9,900	18½	17½	+ ½	6,500	17½	17	- ½
Consolidated Vultee pfd	4,600	25½	24½	...	3,600	25½	24½	- ½
Curtiss-Wright	42,800	8½	8½	+ ¼	20,700	8½	8½	- ¼
Curtiss-Wright A	4,300	23½	22½	+1	2,000	23½	23½	- ¼
Douglas Aircraft	3,500	71	68¾	+1	1,900	70½	68¼	-2½
Eastern Air Lines	5,500	38½	38	- ¼	3,500	38½	38½	+ ¾
Ex-Cell-O	1,800	27½	27½	- ½	2,800	27½	26½	- ¾
Grumman Aircraft Eng.	1,500	16½	15½	+ ½	1,500	16½	15½	- ½
Hayes Industries	16,800	10½	8½	+1½	1,800	10	9½	- ½
Lockheed Aircraft	11,300	23½	21½	+ ½	8,700	22½	21½	- ½
National Aviation	1,600	13	12½	+ ½	2,600	13	12½	- ½
North American Aviation	10,600	13½	12½	- ½	5,900	12½	12½	- ½
Pan American Airways	9,900	33½	31½	+1	12,700	33½	32½	+ ¾
Sperry Corp.	6,300	31½	30½	+ ½	6,000	31½	30½	+ ½
Thompson Products	1,500	31½	31	+1½	2,700	33½	32	+1½
Trans & Western Air	1,800	22½	21½	+ ½	4,300	22½	21½	- ½
United Air Lines	11,100	27½	26½	- ½	9,600	26½	27½	+ ½
United Aircraft	21,800	40	37½	+3½	11,900	39½	38½	- ½
United Aircraft pfd.	1,400	113½	110½	+2½	1,300	114½	113	+1
Wright Aero	3,000	100	99	-2	1,000	101	101	+2

### New York Curb Exchange

	Week Ending May 29				Week Ending June 5			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
Aero Supply B	1,100	5½	5	...	2,600	5½	5	...
Air Associates	300	8	7½	+ ¼	...	...	...	...
Aircraft Accessories	15,900	4½	4	+ ¾	15,100	4½	4	- ¾
Aro Equipment	3,300	20½	19	- ½	3,500	20½	19	+1½
Beech Aircraft	23,400	15½	13½	+1	6,300	15½	14½	- ¾
Bellanca Aircraft	500	4	4	+ ½	900	4½	3½	...
Breeze Corp.	3,200	12½	11½	-3/16	1,600	11½	11	- ¼
Brewster Aero	3,300	5½	5½	- ½	8,700	5½	5½	- ½
Cessna Aircraft	2,500	10½	9½	- ½	1,700	9½	9½	- ½
Colonial Airlines	1,500	7½	6½	- ½	700	7	6½	...
Fairchild Aviation	1,100	9½	9	...	1,700	9½	9½	+ ¼
Fairchild Eng. & Airplane	2,300	2½	2½	+ ½	2,900	2½	2½	- ½
Irving Air Chute	700	10½	10	+ ½	400	10½	10½	...
Pennsylvania-Central Air	3,500	15½	14½	+ ¾	6,300	15½	15	+ ¾
Republic Aviation	3,900	5	4½	- ½	5,600	4½	4½	- ½
Ryan Aero	1,000	4½	4½	...	700	4½	4½	...
Solar Aircraft	1,500	3½	3½	+ ½	600	3½	3½	- ½
United Aircraft Pr.	3,000	13½	12½	+ ½	2,900	13	12	- ¾
Western Air Lines	1,800	10½	9½	...	1,200	10	9½	- ¾

## Roebling Forms Aircord Division, Plans Extensive Aircraft Industry Service

Formation of an Aircord Division has been announced by John A. Roebling's



Burch

Sons Company, Trenton, N. J., which will "make available through a single source the complete line of Roebling products for aircraft ... (and) Roebling Engineering and Consulting service for the aircraft industry." Forest S. Burch, previously assistant chief engineer

of the firm's Wire Rope Engineering department, who was connected with the Glenn L. Martin Company when this manufacturer was in Cleveland, will be manager of the new division.

Roebling felt that "the growing needs of the industry and the increasing part that Roebling is playing in it" made this change advisable.

## Damon Portrait of Air Future Brings Comment from Industry

Comment on the address delivered by R. S. Damon, president of the Republic Aviation Corp., before the Society of Automotive Engineers in New York City, recently, was wide and varied. Following are a few reactions to specific points raised by Damon:

"After this war is won . . . the first big problem will be to see that commercial aviation, with a reasonable international freedom of the air to all non-aggressor nations, is established."

William Littlewood, vice president, American Airlines—"I somewhat deplore his (Damon's) reference to the 'non-aggressor' nations as the possible sole recipients of the benefits of international freedom of the air. When the war is concluded . . . there will remain, I trust, no aggressor nations, unless by some mischance they develop from among our own group of conquering nations."

"International freedom of the air can be given only as a result of mutual trust."

Charles Froesch, chief engineer, Eastern Air Lines—"International air commerce can only grow to its rightful place if all nations will grant to each other the right of innocent commercial flight with specific refueling points consistent with the national security and sovereignty of each nation and their trade interests."

"The rotating lift field seems best

suited for the small private owner and similar activities."

Arthur Nutt, vice president, Wright Aeronautical Corp.—"I have always said that walking would be extremely unpopular if one had to walk constantly to keep from falling down, and, unfortunately, aviation has been in that stage of development until recently."

"Let us be sure that that thing in human relations which we call politics does not stop it (international freedom of the air)."

William K. Ebel, vice president, Glenn L. Martin Co.—"So much of the future of the air transportation and the airplane manufacturing industries depends upon the regulations by the Government, that the importance of proper organization of Federal Bureaus cannot be too highly stressed."

"So let us . . . look at 1953—a thousand cities regularly served by air transport and many thousands of others on mail express and perhaps passenger pickup . . ."

A. A. Priester, vice president and chief engineer, Pan American Airways System—"In 1953 there will be much more intensive use of air transportation, providing that air travel costs can be reduced to bring air transportation into the reach of the average traveler and shipper."

## Curtiss Gets Plant For Research Setup

The new Development Division of Curtiss-Wright Corp., recently established to collaborate with the organization's other three divisions on special problems relating to their all-out production of warplanes, engines and propellers for the war effort, has moved into its newly-acquired factory in Bloomfield, N. J., according to announcement by G. W. Vaughan, president of the corporation.

This statement was the first to identify the location of the new plant since Vaughan announced on Apr. 7 the establishment of the Development Division and plans by the corporation to expand its research and development program.

The new factory, a large four-story type of brick and steel construction with a two-story front containing the administrative offices, was formerly occupied by Johnson & Johnson, Inc. While no details on its size or technical lay-out may be disclosed, Vaughan said it is being equipped to accommodate an extensive program of research and development projects.

Under the supervision of Peter F. Rossmann, general manager of the Development Division and former chief of Development Research in the Airplane Division Research Laboratory of the corporation, engineering staffs have been organized to be active on specialized projects for the Aircraft, Engine and Propeller Divisions. These staffs include technicians and engineers in both aeronautical and non-aeronautical fields.

## Lycoming Plans \$500,000 Plant Expansion Program

Addition of a \$500,000 plant to the Lycoming division of Aviation Corp., N. Y., will enable it to increase subcontract work about 20%, according to report.

It should also make possible a 20% expansion in production of opposed type engines in the main plant, and it is believed sub-contract machine work in 1943 will be more than double that in 1942.

## New Aircraft Paper

Aircraft Production, official publication of the Society of Aircraft Industrial Engineers, Los Angeles, Cal., has been announced, with monthly issues scheduled. Planned to "serve as a medium through which intelligent constructive information will be disseminated to all important executives and engineers concerned with production and management for the purpose of guiding the acceleration of an even flow of airplane production," it is edited by E. T. Moore, with offices at 1206 S. Maple Ave., Los Angeles.

## New Chrysler Engine Plant

A new plant for the Chrysler Corp. in which "the largest airplane engines for the newest long range bombers" will be made is now nearing completion in Chicago. Chrysler President K. T. Keller stated at a recent industrial luncheon in New York City. He said the plant will have an area of 6,000,000 square feet. Keller described approximately a score of other aircraft parts which Chrysler Corp. is making.

## Palmer Nicholls Heads Coast Bendix Division

Bendix Aviation Corp. announces the election of Palmer Nicholls as president of its wholly owned subsidiary, Bendix Aviation, Ltd.,



Nicholls

North Hollywood, Cal. Nicholls has been general manager of the firm and will continue in this capacity, said Ernest R. Breech, corporation president.

"Under Mr. Nicholls' direction, the subsidiary has increased its volume

of production some 300 per cent since Pearl Harbor. During this period, employment has increased by more than 100 per cent," he added.

A flier since 1919, Nicholls organized the Pacific Airmotive Co. in 1927 for the sale and service of aircraft parts. A few years later he sold the business to Bendix, remaining as general manager.

## Mitchell Joins Timm Co. Staff as General Manager

Election of James A. Mitchell as vice president and general manager of Timm Aircraft Corp., Los Angeles and Van Nuys, Cal., has been announced.

Mitchell was formerly executive coordinator for "a large group of aircraft manufacturers at the Army Air Force Materiel Center, Wright Field, Dayton, O."

Engaged in aviation since 1930 when his banking firm helped several aviation companies to get a start, Mitchell served on aviation committees in the East active in "developing the aviation industry and particularly with respect to legislation relating to development of air transport and aircraft production."



Mitchell

## Alfred Marchev Directs Two Republic Divisions

As a result of his appointment as executive vice president, Alfred Marchev will direct operations of both the Long Island and Indiana divisions of Republic Aviation Corp., Farmingdale, L. I., N. Y., company has announced.

Marchev, formerly vice president and general manager of the Farmingdale plant, has been associated with Republic since February, 1942, when he became assistant to the president. He is also a member of the board of directors. At one time he was associated with the Thomas Morse Airplane Company as a designer.



## On The Labor Front

**ALLISON DIV., GMC.,** Speedway City, Ind.  
NLRB recommends that company cease discouraging membership in UAW-CIO or interfere with workers in self organizational rights.

**ALUMINUM COMPANY OF AMERICA, INC.,** Alcoa, Tenn.  
NLRB certifies United Stone & Allied Products Workers-CIO for production and maintenance employees.

**BREWSTER AERONAUTICAL CORP.,** Newark, N. J.  
Strike ends. Controversy was between Navy officials at plant and UAW-CIO local.

**CHICAGO MOLDED PRODUCTS CORP.,** Chicago, Ill.  
NLRB directs election to be held for production and maintenance workers to vote for Rubber & Plant Workers Union-AFL, for Independent Plastic Workers Union, or neither.

**CHICAGO PNEUMATIC TOOL CO.,** Franklin, Pa.  
Company is directed to hold election for foundry employees to vote for or against USW-CIO.

**CHRYSLER CORP.,** Detroit, Mich.  
NLRB certifies UAW-CIO for plant protection employees at Plymouth and Dodge Lynch Road plants.  
NLRB panel, with industry member dissenting, recommends to Board appointment of an impartial umpire to act in disputes between company and UAW-CIO employees.

**CONDENSER CORPORATION OF AMERICA,** S. Plainfield, N. J.  
NLRB certifies Int'l Brotherhood of Electrical Workers-ALF for electrical workers.

**CURTISS WRIGHT CORP.,** Buffalo, N. Y.  
NWLB panel recommends hourly rates be increased an average of 15c to compensate for elimination of an "unworkable" bonus system.

**DOUGLAS AIRCRAFT CO., INC.,**  
Company is directed to hold election for production and maintenance employees at El Segundo Division and Vernon plant to vote for IAM-AFL, UAW-CIO, or neither.

**ELASTIC STOP NUT CORP. OF AMERICA,** Lincoln, Nebr.  
NLRB recommends company completely disestablished Employees Benevolent Association.

**EXTRUDED METALS DEFENSE CORP.,** Grand Rapids, Mich.  
NLRB certifies UAW-CIO for production and maintenance employees.

**FISHER CLEVELAND AIRCRAFT DIV., GMC.,** Plant No. 2.  
NWLB approves schedule of hiring rates, maximum and minimum job rates and 5% night shift bonus.

**FRIGIDAIRE DIV., GMC.,**  
NLRB certifies UER&M-CIO for representation of tool designers.

**GENERAL AIRCRAFT CORP.,** Astoria, L. I., N. Y.  
Election directed for production and maintenance employees to vote for or against representation by United Furniture Workers-CIO.

**GENERAL CABLE CORP.,** Bayonne, N. J.  
Company directed to hold elections of guards, production and maintenance employees to vote for Cooperative Council of Cable and Fireworkers, for Int'l Brotherhood of Electrical Workers-AFL, or neither.

**GENERAL MOTORS CORP.,**  
Negotiations with UAW-CIO fail to reach agreement. Case goes to NWLB. Some of the issues include postwar employment fund, equal pay for equal work throughout the industry and guarantee of a minimum of 48 hours employment per week.

**B. F. GOODRICH CO.,** Copolymor plant, Louisville, Ky.  
Plant is directed to hold election for electrical workers to vote for Electrical Workers-AFL, URW-CIO, or neither.

**KILGORE MANUFACTURING CO.,** Westerville, O.  
NLRB recommends that company cease and desist discouraging employees seeking membership in United Mine Workers.

**LANDIS TOOL CO.,** Waynesboro, Pa.  
NLRB orders company to cease and desist from interfering with employees' self organizational rights.

**LORD MANUFACTURING CO.,** Erie, Pa.  
Election directed for production and maintenance employees to vote for URW-CIO or Lord Employees Association.

**W. L. MAXSON CORP.,** New York, N. Y.  
NLRB recommends elections for hourly paid employees to vote for or against UER&M-CIO.

**MCDONNELL AIRCRAFT CORP.,** St. Louis, Mo.  
Election directed for inspectors, safety inspectors, supervisory employees to vote for or against IAM-AFL.

**MURRAY CORPORATION OF AMERICA,** Detroit, Mich.  
NLRB directs election to be held for plant protection workers to vote for or against representation by UAW-CIO.

**NORTHWESTERN AERONAUTICAL CORP.,** Minneapolis, Minn.  
Company is ordered to hold election for production and maintenance employees to vote for or against UAW-CIO.

**PRECISE AIRCRAFT INDUSTRIES, INC.,** Milford, Mich.  
Election directed for production and maintenance employees to vote for or against representation by UAW-CIO.

**REPUBLIC AVIATION CORPORATION,** Babylon Township, N. Y.  
Trial Examiner recommends company cease and desist from discouraging membership in UAW-CIO.

**SOLAR AIRCRAFT CO.,** San Diego, Cal.  
NLRB certifies IAM-AFL for production and maintenance employees and some other classifications.

**TIMM AIRCRAFT CORP.,** Van Nuys, Cal.  
UAW-CIO certified for plant employees by NLRB.

**U. S. PLYWOOD CORP.,** Seattle, Wash.  
NLRB dismisses complaint finding that company did not engage in unfair labor practices.

**U. S. RUBBER CO.,** Marion, O.  
Election directed for production and maintenance workers to vote for or against URW-CIO.

## Gas Turbines for Planes Predicted

Revolutionary power plants will drive planes and locomotives in the postwar world, in the opinion of M. W. Smith, vice president, engineering, Westinghouse Electric & Manufacturing Co.

Writing in the magazine *Electric Light & Power*, Smith observes that the airplane and the equipment mounted on it "will be subjected to a rapid succession of revolutionary developments."

"From the beginning," Smith recounted, "internal combustion engines have always been the accepted source of power for planes. Later, conventional superchargers were added and now, under wartime pressure, gas turbine-driven superchargers have come forward to meet the requirements of high altitude operation."

"By reason of the development work on high temperature blading alloys, we may now look forward to eventual improvements that will make the gas turbine itself a new form of motor power for airplanes."

"One might predict that in the postwar world the gas turbine operating at high speeds will be made light enough to drive our commercial and cargo plane propellers through suitable gears."

Unlike the conventional automobile engine which produces its power by a succession of gas explosions or expansions, the gas turbine uses a continuous expansion of gas to rotate its windmill-like blades and produce a steady power flow. Supplementing the turbine, another more distant possibility in aviation propulsion, Smith added, would be the use of an electric drive between the airplane's turbine and propellers. Such a system, he explained, "opens up the possibility of novel motor and propeller mountings that show promise of many advantages from aerodynamic considerations."

"Indications and control functions should be combined to reduce the number of instruments required," he said. For example, "it should be feasible to develop an automatic engine control unit to relieve the pilot of such periodic functions as carburetor adjustment, ignition advance and speed synchronization." Such a device's function, he said, "would be analogous, although not similar, to the automatic choke and spark advance in an automobile."

## Cover Leaves Douglas To Reenter Air Force

Maj. Carl A. Cover, since 1938 executive vice president, is leaving Douglas Aircraft Co., Inc., Santa Monica, Cal., to re-enter the U. S. AAF, company has announced.

Cover's military duties were not disclosed, but his assignment was described as "of the utmost importance," and his ability as a test pilot and his wide contacts and experience in the industry were considered factors in his selection "by top-ranking AAF officers."

At various times dating back to World War I, Cover has "filled important posts in the Air Corps," company said, recalling that he had first come to Douglas in 1926 as Air Corps resident representative.



**All Macwhyte aircraft products are made to conform to A-N specifications...including:**

**"SAFE-LOCK" TERMINALS**

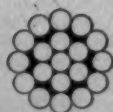
...in eye end, turnbuckle end, stud end, and fork end.

**AIRCRAFT SLINGS**

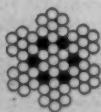
...custom-built for your work. Both standard wire rope and braided slings available.

**TIE-RODS**

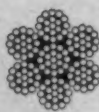
...for internal and external bracing. Streamline, square, round.



1 x 19

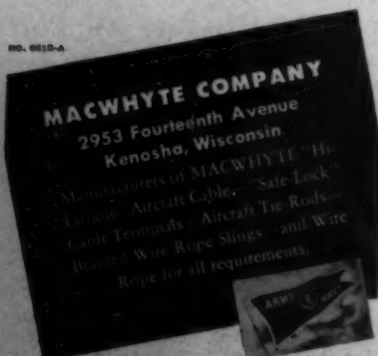


7 x 7



7 x 19

MO. 0010-A



## DOWN THE Manufacturing LINE

Many interesting slants are being developed in the continuing campaign against absenteeism . . . Full meaning of the "Absent-T in Victory" is brought home to employees of Douglas Aircraft Co. by a series of dramatic posters (see cut), house organizations, cartoons and special displays. . . . The Douglas Employee-Management War Production Drive Committees claim the company has one of the best absenteeism ratings in the aircraft industry. . . .



A Douglas poster

but is shooting at the Jack & Heintz claimed record of 4/10 of 1%. . . . And Bendix Aviation Corp. reports that a new "trouble shooting" department set up to aid employees with rationing problems, tire inspection, and such is saving hundreds of man-hours in previously lost time.

The versatile du Pont electrochemical plant at Perth Amboy, N. J., at Army-Navy "E" award ceremonies, demonstrated for the first time an improved process for mixing molecules of silver with cyanide to form a substance for silverplating bearings on airplane motors. Silverplating, says du Pont, makes possible airplane speeds 75 mph greater than would otherwise be possible, and also increases load-carrying capacity. Literally tons of silver are being used each week and production of silver cyanide at Perth Amboy "is more than 30 times larger than before the war, and is being further increased," du Pont claims.

Bell Aircraft Corp., Buffalo, N. Y. has authorized the first vacation program for hourly and salaried employees since the summer of 1940. The vacation period, beginning July 1, will range from one day to a week, depending on the length of employment worker.

**Personalities:** Art Foristall, director of public relations at Consolidated-Vultee, San Diego, has this story to tell about a far-angled school teacher of West Newton, Mass. . . . Said the teacher to Foristall and other classmates in 1910: "Robert Gross is a very smart boy and some day he'll be a very successful man." . . . Clyde and Claude, the Jordan twins, are a tradition at Adel Precision Products Corp., Burbank, Cal. . . . Clyde is vice president, line support division, and Claude is superintendent of the division. . . . Back in 1938 Clyde was the only Jordan at Adel . . . During a particularly hectic and busy day, President Ray Ellinwood snapped, "Why aren't you twins?" . . . When Clyde said, "I am," the boss roared, "Well, what are you waiting for? Get your other half out here!" . . . Clyde sent an urgent telegram to Kansas and out to California came twin brother Claude—creating one of the rare twin teams in industry.

Consolidated Vultee Aircraft Corp., celebrating the 20th birthday of Consolidated, is another reminder that the aircraft industry isn't a baby any more. . . . A number of "veteran" Consair employees are receiving 15 and 10 year service buttons. . . . Consolidated, incidentally, has found its feeder shop system so successful it is setting up a half dozen more in Los Angeles suburbs. . . . Old garages and other buildings are being converted to house miscellaneous metal bench work and sub-assembly departments. . . . And once more it's demonstrated that industry has a soul: when Consolidated workmen found a sparrow's nest in the wing tip of an experimental bomber which was abuilding, officials ordered that it not be disturbed while work went forward on other parts of the plane.

In a drive to recruit more workers, Douglas Aircraft Co., Santa Monica, Cal., is offering substantial weekly war bond awards plus a \$500 monthly top prize to employees enlisting the largest number of bonafide applicants. . . . Eligible for the thousands of jobs open are boys of 17, business and professional people on a part-time basis, men and women of all ages, says S. O. Porter, director of personnel. . . . Aviation Corp.'s Lycoming Division and Curtiss-Wright Corp.'s Ohio plant are among the latest firms employing women guards. . . . They are given courses in self defense, drilling and pistol marksmanship, and sworn into the U. S. Army as members of the Auxiliary Military Police. . . . The Douglas industrial compensation dept. found that healthiest of the company workers during April were those who worked the second or "swing" shift.

C. G.

## Foley

(Continued from page 58)

yet are not neglected, so long as you can see them easily and regularly.

Simplicity of secondary design is never more appreciated than when you're three thousand miles from a jig or electric hoist. The development of high frequency international airline operation in the post-war period will have a profound effect upon aircraft design. It is our hope that the pressure of these conditions may be more effective in directing the manufacturers toward a sound design than the paragraphs we have written.

Frequently, the availability of even such commonplace (in the United States) utilities as light and power is spasmodic at stations that may come within our routes. Unless justification for special installations can be made, we must plan our maintenance against time, or else risk long delays. In our schedule making, let us be sure to acknowledge the place of the maintenance function in the scheme of our service.

A good airplane and planning facilitate station maintenance, yet we can be sure that fate will be inconsiderate of our station "rating" program and major emergencies may have a way of happening at fueling stops. Recognition of this factor should result in two preventative measures: (1) the establishment and maintenance of a basic minimum supply kit to be spotted at every station to cover such exigencies insofar as common sense and economy permit and (2) the sensible investment in adequate, adaptable servicing equipment, which will assure the most work in the least time with our staff of ingenious, all-around station personnel.

We are now led directly to the subject of station personnel for our international operation. Rather than analyzing the necessary organization from the standpoint of requisites, i. e., station management, maintenance technicians, communications representatives, storekeeper, etc., we wish to generalize simply upon the entire group and its qualifications. Specialization and introversion are no part of the ideal foreign station personnel. We need all-around men, up to any situation regardless of the extent of its seriousness over and above their experience or facilities.

In personnel, as in all other elements of our intercontinental operation, we are faced with the nation's labor regulations and standards. Apropos of this subject, we mention what we believe to be a sound premise for the station personnel policy of any operating organization. Make the fullest use of native talent as soon as qualified candidates are available. This technique pays in more than a "foreign relations" goodwill way. It is, in many instances, the keystone upon which we may build a competent permanent, well-satisfied staff.

A general example will illustrate this point. Distances from home and family, differences in customs and even food, and in many locations the complete absence of diversions necessitate (from mental alertness and morale considerations) short assignments for many of our sta-

(Turn to page 72)



## 194X WEEK-END

The war is speeding *many* developments which will contribute not only to peacetime employment, but to a fuller life when war is over. Among these will be family planes that are simple to fly, dependable and economical. Important accelerator of this progress will be the constant speed, lightweight Wickwire Automatic Propeller with its *fully* automatic pitch change.

WICKWIRE SPENCER  
AVIATION CORPORATION

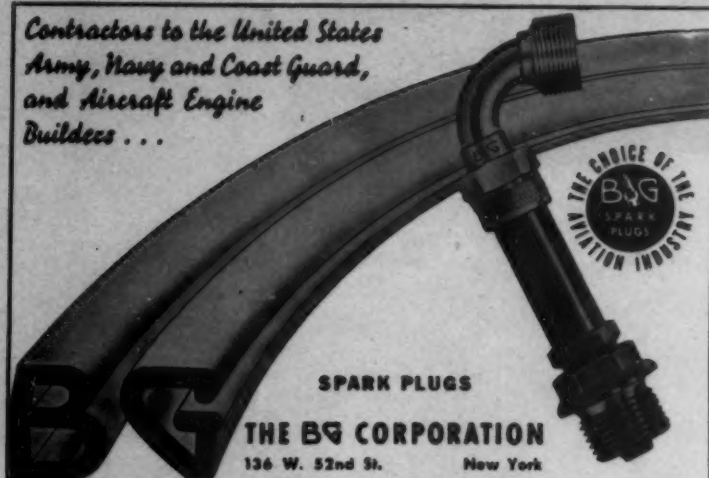
Blue Island, Illinois

(Subsidiary of Wickwire Spencer Steel Company)



## MANUFACTURING

Contractors to the United States  
Army, Navy and Coast Guard,  
and Aircraft Engine  
Builders . . .



SPARK PLUGS

THE B&G CORPORATION

136 W. 52nd St.

New York

WORLD'S PREMIER AIRPLANE FABRIC

**LIGHTER STRONGER SMOOTHER**  
**FLIGHTEX**

SUNCOOK MILLS - 40 WORTH ST. - NEW YORK, N. Y.

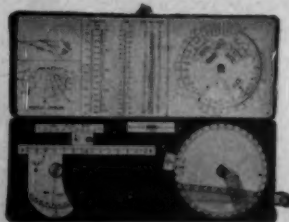
Leading Manufacturers of Fabric and  
Tapes for the Aircraft Industry.

FLIGHTEX FABRIC

Export Representative—Aviation Equipment & Export, Inc.,  
25 Beaver St., N. Y.  
Cable Address—Aequipe

## Headquarters for Computers

Our staff of engineers specializes in solving complicated problems by means of simple computers that are easy to understand and operate. Mental calculations are reduced to a minimum.



### NAVIGATIONAL COMPUTER

Enables a pilot or navigator of aircraft to quickly and accurately solve dead reckoning navigational problems without mental arithmetic. It determines the relation between Air Speed, Ground Speed, Wind Direction and Velocity, Heading, Track and Magnetic Variation. It also incorporates a circular time-speed-distance slide rule, conversion tables and variation chart.

**COX and STEVENS AIRCRAFT**

CORPORATION

*Navigational Instruments*

P. O. Box 30

Mineola, N. Y.

## Foley

(Continued from page 71)

tion-caliber personnel. This frequent rotation is expensive to the operator and, no less important, it destroys the continuity of direction and records so essential in a scheduled operation. However, to the native this is home. He would be lost elsewhere perhaps and, if his ability and interest are adequate, he represents the "tops" in station talent. In recognition of the advantages of such a technique of personnel administration, we feel that, in peace times, the international operator should bring promising foreign candidates to the main base, train them in detail as appropriate to their proposed career, have them certified by any necessary regulatory agency and permanently assign them to the station staff in their home country.

Earlier, we mentioned the importance of the function of supply and maintenance of stocks at stations. It is our thought that this importance is of such an order as to justify the full-time services of a storekeeper, trained in the operator's procedures. To expect the reliable performance of this clerical but important position by a staff member as a side-line to his regularly prescribed duties is extravagant optimism.

Time has permitted us to treat only three of the seven phases of an international operation: supply, maintenance and personnel. These three are closely related and the significance of one may be no more or less than that of the others. We have merely "exposed" certain problems, as we visualize them and possible solutions and helpful techniques that come to mind. The expansion of each portion into its fullness of operating detail, we must leave to you. We hope to conclude this treatise on intercontinental airline operation, touching upon operations, communications, traffic and administration in an early future issue.

## Curtiss-Wright 'Clinics'

### Aid to Subcontractors

A series of war-production clinics is being sponsored by the Airplane Division of Curtiss-Wright Corp. in the major cities of the east and middle west. They are designed to help subcontractors and vendors increase their efficiency in the war effort.

The clinics offer participants successful methods and practices today employed in all plants of the Curtiss-Wright Airplane Division. Representatives of most of the corporation's approximately 200 eastern subcontractors and vendors met at the New York City clinic which opened the series.

Such factors as absenteeism, production, plant safety, the addition of new employees, bond purchases, employee suggestions, and similar subjects are covered. The clinics feature a series of informal discussions on Curtiss-Wright's streamlined, morale-building war production program. Placards, posters, wall and floor stencils, and other morale-building material are furnished the participants.



# ASBESTOS JOE

*beats fire to the punch*

Asbestos Joe, who can walk through flames, doesn't like fires. He stops them before they even happen.

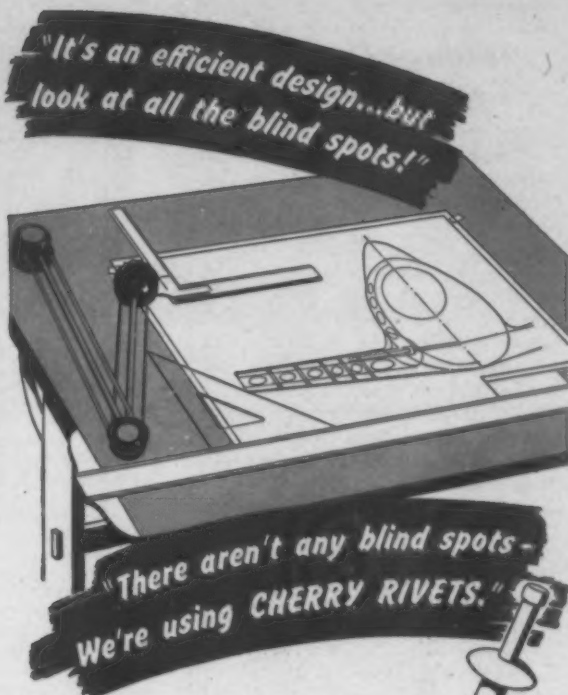
On a carrier deck quick thinking and precise teamwork keep fliers' lives safe. When a plane comes in for a crash landing, with landing gear damaged, partially out of control, the fire-fighters are ready for trouble! A crash wall is set up to stop the plane's momentum. And across the deck they lay down a fire-smothering barrage of carbon dioxide gas. Even if the plane hits hard, there's no blaze.

And so, the U. S. Navy has recorded an amazing safety record. For example, deaths from crash-fire accidents aboard carriers are virtually unknown. Carbon dioxide equipment helped make the record.

In fact, carbon dioxide gets a lot of attention at Walter Kidde & Company. We make it fight flames on carriers, planes, PT boats. We use its pressure to inflate rubber rafts.

Also Kidde pressure cylinders handle oxygen for high altitudes; they hold and release other gases used for power actuation and various life-saving devices.

New uses for pressure gases are being found daily. Perhaps they can solve your problem. For advice, write to Walter Kidde & Company, 613 Main St., Belleville, N. J.



The old compromise with efficiency to avoid blind or inaccessible spots in airframe structures has been eliminated by the Cherry Blind Rivet.

This mechanical blind rivet has proved itself in thousands of aircraft and due to its high shear and fatigue values is opening new doors for the engineer. He can now design up to efficiency rather than down to a manufacturing limitation.

The complete story on Cherry Rivets is available. Request your copy of the new Handbook A-43 from Department A-111, Cherry Rivet Company, Los Angeles, California.



CHERRY RIVETS, THEIR MANUFACTURE AND APPLICATION ARE COVERED BY U. S. PATENTS ISSUED AND PENDING.



## Advertisers In this Issue

Company	Page
Aeronca Aircraft Corp.	51
Aeroquip Corp.	3d Cover
Air Express	54
Aircooled Motors Corp.	47
Aircraft Components, Inc.	4
B. G. Corp.	72
Bell Aircraft Corp.	20A
Bendix Aviation, Ltd.	66
B-H Aircraft Corp.	74
Boeing Aircraft Co.	7
Breeze Corporations, Inc.	54
Brewster Aeronautical Corp.	28B
Canadian Pacific Air Lines, Inc.	33
Cherry Rivet Co.	73
Chicago & Southern Air Lines, Inc.	14
Cox & Stevens Aircraft	72
Curtiss-Wright Corp.— Airplane Div.	20B
Curtiss-Wright Corp.— Propeller Div.	6A
Curtiss-Wright Technical Institute	41
Foot Brothers Gear & Machine Corp.	3
Goodyear Aircraft Corp.	5
Gulf Oil Corp.	13
Huntington Precision Products	4th Cover
Irving Air Chute Co., Inc.	53
Jacobs Aircraft Engine Co.	57
Joyce Aviation, Inc.	24B
Kellogg Switchboard & Supply Co.	6
Kidde & Co. Inc., Walter	73
McDonnell Aircraft Corp.	2d Cover
Macwhyte Co.	70
Mallory & Co., Inc., P. R.	68
Marquette Metal Products Co.	55
Martin Co., Glenn L.	39
National Airlines, Inc.	63
Pan American Airways, Inc.	37
Parks Air College, Inc.	74
Pioneer Parachute Co.	59
Pratt & Whitney Aircraft	31
Pump Engineering Service Corp.	24A
Rohr Aircraft Corp.	23
Roxalin Flexible Finishes, Inc.	65
Ryan School of Aeronautics	12
Simonds Saw & Steel Co.	11
Sperry Gyroscope Co.	61
Standard Oil Co. of New Jersey	19
Suncock Mills	72
T. W. A.	27
United Air Lines	49
Weatherhead Co.	44
Western Air Lines	56
White Motor Co.	9
Whiting Corporation	28A
Wickwire Spencer Aviation Corp.	71
Wilcox Electric Co.	43



## You Can Depend On PARKS TRAINED MEN Today and Tomorrow

Parks training for careers in the aviation industry is continuing with capacity enrollments. Although many Parks graduates are serving in the Armed Forces, hundreds are contributing much to the development of the industry... in designing, manufacturing, maintenance, engineering, and operations.

You can rely on Parks trained men, not only to meet your problems of today, but to carry on into the future with your postwar plans. The value of a Parks college education specializing in aviation is recognized throughout the industry.

A letter or wire to Oliver L. Parks, President, will give you complete information on available graduates of this college.

**PARKS AIR COLLEGE, Inc.**  
East St. Louis, Illinois

# B-H

## MANUFACTURERS of SHEET METAL and TUBULAR ACCESSORIES

### PROPELLER CUFFS

CONTRACTORS TO ALL LEADING  
ENGINE and PROPELLER  
MANUFACTURERS

# B-H AIRCRAFT CO.

LONG ISLAND CITY NEW YORK

## Lockheed Purchases Coast Finance Firm

Acquisition by Lockheed Aircraft Corp., Burbank, Cal., of majority interest in Pacific Finance Corp. of California through purchase of stockholdings in Transamerica Corp. and associates has been revealed by the company.

Reported consideration for the 381,268 shares involved in the transfer was \$15.25 a share, and Lockheed's investment in the company will amount to about \$3,750,000 after retirements.

Robert E. Gross, Lockheed's president, said of this move: "... This is one of the ways we can prepare for the future without sacrificing one manhour now from production of war planes so vitally needed by the fighting forces." C. A. Barker, vice-president and treasurer of Lockheed, commented that "It is intended that the finance company will continue its present business during the war and will expand this business along with aircraft financing after the war."

Pacific Finance's board appointed Robert E. Gross, Courtlandt S. Gross, Charles A. Barker, Jr., Cyril Cappellet and Corson W. Ide as directors to fill existing vacancies.

Directors of Pacific Finance have adopted resolutions calling for special meeting of its stockholders June 23, "to make callable the Series A and C preferred stock, and to authorize the reduction of the capital of the corporation by the retirement of not to exceed 182,852 common shares."

It is recalled that last year Transamerica Corp. acquired a majority of the common stock of Pacific Finance. As of March 31, Pacific Finance is reported to have had total loans and discounts of \$14,014,928.36 and other receivables of \$130,486.61. Total assets were \$16,647,595.40, including \$2,441,085.99 cash. Notes payable totaled \$5,900,000 and other liabilities were \$865,177.33.

## Financial Briefs

**THOMPSON AIRCRAFT PRODUCTS Co.** Euclid, O., for quarter ended Mar. 31, 1942, has announced total assets of \$17,353,429, and current assets of \$16,011,696, including cash, \$4,578,289 and accounts receivable, \$4,443,590. Liabilities totaled \$15,484,449, including notes payable to banks, \$16,800,000 and accounts payable—trade, payrolls, etc., \$3,091,686. Earned surplus was \$313,536.

**SOUTHERN AIRCRAFT Corp.**, Garland, Texas, has reported for the year ended Dec. 31, 1942 assets of \$1,530,477.37, and current assets of \$1,244,436.57, including cash in banks and on hand, \$264,238.78, and accounts receivable, \$376,103.88. Current liabilities totaled \$930,608.73, including provision for Federal taxes on income, \$129,162.62.

**EVANS PRODUCTS Co.**, Detroit, Mich., and subsidiaries, for the quarter ended March 31, report net profit, after charges, of \$111,227, equal to 46c each on 244,190 shares of \$5.00 par common. This contrasts with \$68,475, or 27c for the same period of 1942. In the 1942 period, \$481,490 was provided for estimated Federal, state and foreign income taxes, against \$255,000 income tax provision in the like period of 1942.

**LOCKHEED AIRCRAFT Corp.**, Burbank, Cal., has announced dividend declaration of 50c a share, payable June 28 to holders of record June 16, which reflects company's intention to pay "smaller interim dividends from time to time."